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Pulmonary Tuberculosis

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The Capillary Cardiant

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Editorials

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EDITORIALS

The Tripod of Public Health

SOMETIMES a study of another country's problem may help one to envisage more objectively the condition of one's own. So in our discussion of the evolution of medicine in the United States, this glance at the factors in Mexico's problem may help us to see more clearly the corresponding ones in our own. The interplay of the three factors—ignorance (illiteracy), poverty, and lack of medical facilities shows up clearly in the Mexican scene. These factors are obscured but none the less present in the United States.

In Hudson Strobe's *Timeless Mexico*, page 314, we find these sentences: "Like Disraeli, Cárdenas believed that 'the health of the people is really the foundation upon which all their happiness and their powers as a state depend.' But he knew that health could not be achieved merely by constructing hospitals and creating more physicians. It had to begin with a basic education."

"The teaching of hygiene was one of the most important works of the rural schoolmaster, and sometimes he had to be both physician and nurse, at the risk of his life. Teachers who distributed and administered the free quinine, vaccines and serums supplied by the department of health were menaced by the Indian witch doctors."—and many killed. (page 315.)

"In a survey the president had made in 1936, there was found to be only one physician for each 914 square kilometers in rural Mexico, one for about 7,000 persons. The proportion varied with the states. At the bottom was Querétaro, with only one doctor to 52,000 persons. Some 60 per cent of the population received no scientific medical attention whatever. So, in spite of all opposition, traveling ambulance units . . . proclaimed the new way to health wherever roads went." (page 316.)



"In 1936, at a congress held in Morelia, Mexico's medical service in rural districts submitted a project in group medicine, to be partially government financed and partially paid for by the people. In group medicine the fee for complete medical care for an entire family was to be as low as 12 pesos a year (\$2.40)." (page 317.)

"But it was far easier for Cárdenas to create new hospitals than to dissolve the charlatanism and bureaucratic red tape and favoritism that existed in medical circles." (page 317.)

"To make as many ignorant people health-conscious as quickly as possible, another excellent idea was promulgated by the faculty of the medical college. Instead of the graduates becoming internes at city hospitals, they were sent for six months into communities that had never known a doctor. Medicine was free, fees were nil. The salary was 90 pesos a month. The physician novices had to train their own nurses and set up their clinics where they could. At the end of the period, for their thesis, they were to write a tabulated survey of their community—the kind of people, climate, sanitation, diet, income, and special diseases of the region. On completing their six month rural internship and their thesis, they receive their degree." (page 318.)

"Cárdenas saw the health statistics improve, infant mortality decline. But he had known that Mexico could not become a healthy country by education and medical care alone. A prime cause of Mexican sickness lay in poverty." (page 319.)

One of the most bitter descriptions of the faults of the medical profession in any country is to be found in Mrs. Millan's final chapter of her book *Mexico Reborn* (Boston, Houghton Mifflin & Company, 1939). Mrs. Millan is the wife of a physician, whom she had married in New York City where he was studying to be a cancer specialist. They returned

to Mexico full of courage and hope only to find that political graft and the division of fees made medical ethics a mockery. Whether to stay in Mexico, or to return to the United States, was the question they debated for six years. Finally, they decided to stick it out as a matter of patriotic duty.

This one chapter will take only a half hour to read, but is nevertheless worth the trouble of getting the book out of the public library—even if one doesn't read the other interesting chapters.

This story of Mexico's problems makes more vivid Strode's account of what Cárdenas and Camacho are now doing for public health in Mexico.

GEORGE H. HOXIE.

The Draftee Under Regimented Medicine

IN the March issue of the *Journal of the Oklahoma State Medical Association* Lewis J. Moorman takes the magazine *Fortune* to task for its recent article on "United States Medicine in Transition." The article in question, Moorman points out, while "ostensibly unbiased," in reality amounted to "an astute argument for regimented medicine." In the course of his editorial Moorman makes the following striking point against regimentation on the score of its effects upon possible future draftees:

"If the government, already looking upon medicine as a mere trade, institutes a regimented medical service, the findings at the induction centers, in wars to come, will be revealing, if not embarrassing. It is now time for the people of the United States to know that their physical well being and even their daily existence depend upon medical knowledge freely and skillfully applied throughout the land; that this knowledge has reached its present high level through a process of evolution covering a period of 2,500 years and that the motivating spirit has been that of free enterprise with tireless, sleepless periods of hard work and individual investigation. Progress in medical science has never clicked with the clock; has never followed a regimented régime or bowed to a bureaucratic boss."

Dilemma Upon Dilemma

AMERICAN foundations spend about \$5,000,000 annually on medical research. The corporations of America

spend about \$275,000,000 on industrial research.

Obviously, something is wrong, because the economy of plenty which we are looking forward to in the post-war era cannot be implemented by workers deficient in health. Production rests upon physical efficiency. Selective service has shown that 8,000,000 of our 22,000,000 men of military age are not very fit physically.

However, without correction of basic defects in the social order having to do with such things as poverty, medical research is not enough, unless it includes study of social and economic factors and planning for realistic therapy. Maybe that is not expedient. Very well, but how then can enough healthy people be made available for the prospective jobs?

When the State Is a Deity

WE have already been much influenced by English ideological concepts, growing more or less out of Continental war factors, and in this connection we need to watch changes, actual or portending, having to do with medicine.

Deficit financing, the brain child of Lord Keynes, is an example of this sort of thing. Then the proposal that this country finance the post-war world emanated from the same source. The pending Wagner General Welfare bill bears certain resemblances to the "womb to the tomb" ideas of Sir William Beveridge.

The plan of heavy thinkers in Washington to provide 60,000,000 jobs makes one think of the scheme of Beveridge described in his *Full Employment in a Free Society*.

The state socialism which is the admitted aim of the British Labor Party contemplates nationalization of medicine along with everything else, to be accomplished under a "five-year plan." As we pointed out in an April editorial, trade with other countries under this totalitarian scheme would be governed by those countries' modifications of their own economic structure in accordance with British behests.

We must be on our guard against the importation of such infections, fatal to medicine and to our own system alike.

This war may have some strange and unlooked-for consequences—the very things which the war was fought to avoid, or so we believed.

—Concluded on page 198

PULMONARY TUBERCULOSIS

MODERN CONCEPT AND RECENT ADVANCES

IN TREATMENT

I. Ellis Rudman, M.D.
Philadelphia, Pa.

THE history of tuberculosis is closely connected with the history of civilization. When the people of this earth were nomads moving from place to place where grazing was abundant for their flocks and herds, tuberculosis was almost unknown. It was only when the fixed abodes became the habitat of people and they began to congregate in villages and towns and cities that tuberculosis began to make its inroads and became a scourge of mankind. No nation seems to have been exempt from its ravages since early times. Many sayings in the Code of Hammurabi point to the existence of tuberculosis in his day. Ample evidence shows that it existed in the days of the Pharaohs. Mummies have been found that show the unmistakable evidence of having had pulmonary tuberculosis. It was known to the ancient Hebrews. Many of the codes and rituals for the segregation of the sick point unmistakably to the recognition of tuberculosis as an infectious disease.

It is claimed that the Jewish race has developed a greater tolerance of or immunity to tuberculosis than any other race. It is possible that this has been brought about in part through their trials and tribulations in the Middle Ages. During the days of the Crusades, Jews were herded in ghettos. The overcrowding and the insanitary mode of life they led in those ghettos led to a terrific rise in the incidence of and mortality from tuberculosis, but in the survivors there developed a resistance to the disease that has been passed on through the generations. It is pointed out and probably with some degree of justification that the present successful campaign throughout the civilized world for the reduction of tuberculosis will eventually lower the so-called acquired racial immunity and that tuberculosis will reappear in a more virulent form than we see at the present time. To clinch the argument, many phthisiologists point to the virulent form that tuberculosis takes when it reaches virgin territory. The contacts of white men with the natives of

the South Seas has often caused the appearance of tuberculosis among the natives in a most virulent form. Whole villages have been known to be depopulated by the white plague.

UNTIL the discovery in 1882 by Dr. Robert Koch that tuberculosis is caused by the tubercle bacillus, the blame was placed on many factors, namely, insufficient food, bad air, colds, heredity, overwork, loss of sleep, and physical, mental, and sexual dissipation. We now know that tuberculosis comes from tuberculosis; that a person who harbors tubercle bacilli in his sputum can spread the disease to others, and that the aforementioned "causes" of tuberculosis may be only predisposing factors by lowering the vitality of the individual and making him more readily susceptible to the invasion by tuberculosis.

The Industrial Revolution in this country and a little earlier in England made a profound change in the lives of many people. The abandonment of home industry and the establishment of mills and factories took the workers from the home and massed them in the mills. The majority of these workers at first were women and children. In the early part of the last century, agriculture in this country was still the mainstay of the family as the means of a livelihood and this was left to the men folk. In the factories, the hours of work were long, sanitation inadequate, and often left to the whim or benevolence of the owner. In some industries, the occupational hazards were great. In mines and foundries, protective devices were as yet unknown. Silicosis was not recognized as a predisposing factor for the development of pulmonary tuberculosis. "Miners' asthma" was considered the inevitable result of years of working in the mines. Workers with asbestos developed cough and frequently spit up blood, but the fact that the gritty particles inhaled caused profound changes in the lungs was as yet unrecognized. In the big industrial centers in this country, there was an influx of cheap foreign labor. They filled the sweatshops and worked

long hours in improperly ventilated shops and factories. The speed-up system drained the vitality of the workers and the death rate from tuberculosis increased. After the Civil War, there came a trek from the South of thousands of liberated slaves. They migrated to the industrial centers of the North in large numbers. From a life in the open on the plantations of the South they were suddenly thrown into the congested centers of population. They settled in the slums of the cities where housing was poor and sanitation inadequate. These Negroes were virgin soil for the implantation and spread of tuberculosis. The morbidity and mortality even to this day in the city of Philadelphia is six times as great in the colored population as compared to the white people.

TO combat the inroads of tuberculosis, educational campaigns were started to acquaint the public with the seriousness of the disease and to arouse public sympathy for the victims of the white plague. These campaigns were very successful. The people of the United States were made tuberculosis conscious, often to such an extent that the person who was diagnosed as tuberculous was often shunned like a pariah. His presence was resented. He was avoided and all haste was made to place him in an institution with others of his kind.

When the full character of tuberculosis was first brought to the public consciousness, a wave of enthusiasm for the building of sanatoria swayed the country. It was reasoned that to combat this disease all that was necessary was to segregate all the tuberculous and, with the source of contagion removed, the disease would be rooted out in a short space of time. The fallacy of this idea soon became apparent when the extent and widespread character of this disease became recognized. In the United States, there are at the present time nearly a million registered cases of tuberculosis, that is, persons who have been reported to the various boards of health. In this country, taking into consideration both federal and state institutions for tuberculosis, there are only 80,000 beds available. It is, therefore, evident that a large number of tuberculous patients do and can take the "cure" at home. In recent years, we have abandoned the idea that climate plays an important part in the cure of tuberculosis. At first,

patients were sent to Arizona, Colorado, and New Mexico, and it was claimed that the climate of these places had beneficial effects in the cure of tuberculosis. Later on, practically every State in the Union built its own sanatoria. It was found that tuberculosis could be taken care of in States with climates as divergent in character as those of New Mexico and Maine, but even with every State in the Union furnishing beds for its own tuberculous patients and with all the pressure brought to bear on state and local authorities by various medical and lay organizations to furnish more beds, only a small percentage of the tuberculous population of the United States finds facilities in institutions. The early trend was to build sanatoria in the country where the air is supposed to be purer than in the city. Many institutions have been built in inaccessible parts of the country. The choice of locality depended upon altitude and view. As progress in tuberculosis treatment continued to take place, modern hospital facilities were added to some of the more fortunate institutions, but on the whole, the majority of sanatoria are still located in isolated sections of the country where modern methods of treatment are unavailable. In order to give to patients the benefits of modern treatment, many sanatoria send their patients to city hospitals for treatment by the newer and more active methods.

IN no branch of medicine has there been greater progress in the last twenty years than in the treatment of pulmonary tuberculosis. From an attitude of watchful waiting and symptomatic treatment, we have turned to an activist policy to render the patient free from tubercle bacilli in the shortest possible time. All methods have one aim in common: to render the patient sputum free or at least cause the disappearance of the tubercle bacilli from his sputum. In the past, when a diagnosis of tuberculosis was made it meant to the individual or his family one thing: the sending of the sick member to the sanatorium, there to remain two or three years or longer. Often to the individual of moderate means, the completion of a cure was an insurmountable financial burden. It often meant the breaking up of the home and the incurring of heavy debts. In most cases, treatment began in private sanatoria but ended in state institutions or homes. To ease the finan-

cial burden on the tuberculous population, greater demands were made for better and larger state and county sanatoria. The family physician turned over his tuberculous case to the State and felt that he had done his duty. The care in the sanatoria was merely custodial. Most sanatoria were simply glorified boarding houses. It was only when the modern treatment of tuberculosis was discovered and popularized that the whole aspect of the situation became changed. What could previously be accomplished by years of bed rest, if at all, can now be accomplished in weeks or months.

ALL speculation as to the cause of tuberculosis was laid at rest when Dr. Robert Koch announced to the world his discovery that the tubercle bacillus is the sole causative agent in the disease entity then known as consumption. It is so simple a statement, but it hardly reveals the trials and tribulations, the painstaking research, the endless groping for the truth that motivated this country physician to depart from the trodden paths to seek the real cause of this centuries-old disease.

There is no more romantic chapter in the history of medicine than the life and efforts of Dr. Koch. He began his medical career as a young practitioner in the small village of Wollstein in East Prussia. To combat his restive spirit and his dissatisfaction with the humdrum existence of a country physician, his wife bought him a microscope as a gift. He began his researches by placing bits of tissue, drops of blood, sputum, and saliva under the microscope. His first real opportunity for research presented itself when anthrax began to decimate the flocks of sheep in his vicinity. He began to place drops of blood from dead and dying sheep on glass slides and to study them under the microscope. He noticed a small rod-like organism floating among the red corpuscles of the dead and dying sheep. No such organisms did he find in the blood of healthy sheep. This first step into research opened a new vista to him. With a zeal that knew no bounds, he began to frequent the morgues and obtained material to place on his glass slides from those who died of various disease, among them many who died of tuberculosis. He soon noted that from the grayish-white tubercles and the caseated lung tissue he was able to obtain a little rod-like bacillus. He later

found that this same bacillus was found in the sputum of those who were ill with tuberculosis. To further prove that tuberculosis is a germ disease, he took small slivers of wood, sterilized them in a home-made sterilizer, dipped these little slivers of wood in sputum obtained from tuberculous patients and inserted them under the tails of mice. He then studied the organs of these dead and dying mice and found that they contained the same microbes that he found in the sputum of the tuberculous and the lungs of the dead consumptives. He knew that he had made a monumental discovery and laid his findings before the eminent men of his profession at that time. Far from accepting his observations and conclusions, they displayed a great deal of skepticism. It was not until Dr. Paul Ehrlich, at that time doing research work in the laboratories of Dr. Cohnheim, came to his rescue by showing that these microbes could more easily be demonstrated by using certain dyes, that the truth of his contentions became firmly established.

THE discovery of the tubercle bacillus as the causative agent of tuberculosis immediately engendered the hope of many research workers that a cure might now be found for this disease. The extraction of tuberculin in 1890 was the outcome of these researches. However, tuberculin proved to be a disappointment. Though it was of value as a diagnostic measure, as a curative agent it failed completely. The disappointment in tuberculin was worldwide. The medical profession felt that they were on the threshold of a cure for tuberculosis, and the failure of tuberculin to measure up to expectations caused keen disappointment. Although we now knew the cause of tuberculosis and its mode of progress in the lung and the ravages it causes if its course remains unchecked, still we had no specific cure. The medical profession continued to resort to the centuries-old triad of good food, bed rest, and fresh air. However, there still lingered the hope that more could be accomplished for the sick lung than mere bed rest alone could bring about. It was noted that all body functions are quieted by bed rest; even the process of breathing is slowed. The medical thought turned again to the idea that immobilization of the lung could hasten the process of healing. Various suggestions were made to bring about the desired results. Various

means of further slowing respiratory movements were tried. Corsets, binders, weights, and sandbags were used, yet no positive method seemed to be available to arrest the tuberculous process in the lungs, to cause the disappearance of the tubercle bacilli from the sputum, to stop the toxemia which is often seen in the very sick tuberculous patient. And so they turned from the idea of a specific serum or medication and gave full attention to the so-called physiologic rest of the lung. For here we have an organ of the body that is never at rest. Night and day, the cells of the lung take in their supply of air and extract from it the oxygen needed for utilization by the blood stream which carries the life-giving oxygen to all the cells of the body. The cells of the lung are never at rest; with each breath, with each inspiration and expiration, these cells function so that healing, or scar formation as it occurs in other parts of the body, is at a disadvantage when nature attempts it in the lung.

ACCIDENTLY, a new way was shown to a physician in Liverpool, England, by which greater rest could be obtained for the lung, cavities could be closed, and the spread of the disease checked. The story is that in 1832 a hod carrier, a patient of Dr. James Carson, by whom he was being treated for tuberculosis, developed what we now know as a spontaneous pneumothorax. In other words, the severe exertion brought about by his work as a laborer caused a tear in his lung and an ingress of air into the pleural space. Though the shock of this accident was great and the patient was almost breathless following this episode, with the good doctor expecting his quick demise, to Dr. Carson's surprise the patient improved. Cough and expectoration subsided in a very short time and he regained strength and weight and was in better shape than he had been for a great many years. This led Dr. Carson to ponder on this subject. His keen observations led him to the conclusion that the accident causing collapse of the lung brought about the healing that took place. It then occurred to this original thinker that such a desirable result could be brought about by the artificial collapse of the lung by making an opening between the ribs and allowing air to enter the pleural space. Though he never put his theories into practice, he wrote a lengthy treatise on this subject, but it

seems that his efforts were in vain. His ideas were allowed to be forgotten by the medical profession and it was not until Dr. Forlanini of Pavia, Italy, resurrected his manuscript in 1882 that his ideas were put to practical use. In 1904, Dr. Forlanini published the results of a series of cases he had treated by this method. This method of treatment became known as artificial pneumothorax. Though the series of cases that were treated by Forlanini were small, his results were so positive that soon the gospel of his method spread throughout the civilized world and became accepted as one of the best methods of treatment for pulmonary tuberculosis. Dr. Clive Riviere, in his book, "The Pneumothorax Treatment of Pulmonary Tuberculosis," begins the introduction to this book with the following statement, "No more hopeful ray of sunshine has ever come to illumine the dark kingdoms of disease than the introduction into the path of the consumptive of the discovery of artificial pneumothorax." Though first suggested and used only in unilateral cases of pulmonary tuberculosis, experience has taught us and x-rays have proven that there is really no purely unilateral case of pulmonary tuberculosis in which the so-called good lung is absolutely free from disease. But when the side with the greatest pathology is treated by pneumothorax, the less infected side will often take care of itself. The hesitancy on the part of a good many physicians to resort to the pneumothorax treatment of tuberculosis is due to the fact that when it was first used, only advanced cases were subjected to this form of treatment. In a sense, it was used as a final resort and, because it was applied to debilitated and advanced cases, the results were not encouraging. The earlier the use of pneumothorax in pulmonary tuberculosis the fewer the complications and the better the end results. As the disease progresses in the affected lung, it often reaches to the surface of the lung and involves the pleura. By contact it will involve at times even the pleura lining the chest wall and adhesions will form causing symphysis pleurae. When a part of the lung is adherent to the chest wall, a small space is created by the pneumothorax, limited in extent and often ineffectual in bringing about any marked benefits. The modern method is to use pneumothorax before the disease has advanced, before adhesions have developed, and be-

fore the pleural space is partially or completely sealed by the inflammatory process.

THE first treatment, or what we call the initial pneumothorax, is best done in the hospital or sanatorium. After a sojourn of one or two weeks in the hospital or sanatorium, a successful case can become ambulatory and further treatment can be given in a physician's office or in a pneumothorax clinic. The procedure is very simple. The patient is placed on the operating table, lying on the normal side with the involved side of the chest uppermost. The hand is extended over the head and the side of the chest is prepared by scrubbing with soap and water and the application of antiseptics. The skin and the underlying tissue in the vicinity of the sixth or seventh rib at the lower border of the axilla is anesthetized with novocaine. A needle is attached to the tubing of the pneumothorax apparatus and the

needle is gently inserted between the ribs until it is in the pleural space. When the needle enters the pleural space, the intrapleural pressure records itself on the water manometer of the pneumothorax apparatus. It is not my intention to go into details of the technique of giving initial or subsequent pneumothorax treatments. Suffice it to say it is not a formidable procedure and in experienced hands it is devoid of danger. Experienced men administering pneumothorax can feel in their fingertips when they have passed the chest wall and entered the pleural space. They are further guided by the readings of the water manometer. The air from the bottles on the pneumothorax apparatus is allowed to enter the pleural space slowly. With the first treatment, the patient experiences sudden sharp pain when the lung is compressed, but subsequent treatments are painless and do not in any way discomfort the patient.

(To be continued)

DOWNWARD DISPLACEMENT OF THE ASCENDING COLON

Marvin Smith, M.D.

Miami, Florida

THE ascending colon is very short, occupying only the space between the crest of the ilium and the surface of the liver. In 75 per cent of the cases this part of the colon is covered with peritoneum on its anterior and lateral surfaces. The posterior surface is covered by loose areolar tissue which attaches it to the back of the abdomen and the front of the right kidney. In 25 per cent of the cases this portion of the colon is completely covered with peritoneum.

The ascending colon occupies chiefly the right lumbar region and may extend downward for varying distances, within narrow limits. The cecum may be considered in fairly normal position if it hangs down as low as the brim of the pelvis, but not much lower than that.

We have now attempted to establish the normal average position of the ascending colon and cecum. Let us then enter into

the discussion of my subject: "The Downward Displacement of the Ascending Colon."

YOU may ask, why should we care whether this portion of the colon is out of place or not? Why is it out of place? What trouble does its being out of place cause?

It didn't take doctors or laymen long to find out that when the shoulder or the hip joint gets out of place there is trouble, because there are pain and a helpless extremity. When a kidney gets out of place, there are also pain, anxiety, and a degree of uremic poisoning. When a woman's uterus is badly prolapsed or retroverted, she will become an invalid, unless it is put in place and kept there. Likewise when the ascending colon is out of place, there are nausea, pain, weakness, mental depression, and stagnation of the fecal stream. The ascending colon may be out of place, possibly from accident, but more likely it is the result of improper dieting or long standing constipation due to failure in answering the calls of nature. The displaced cecum and ascending colon may

Read before the Dade County Medical Society at its April, 1945 meeting.

MEDICAL TIMES, JULY, 1945

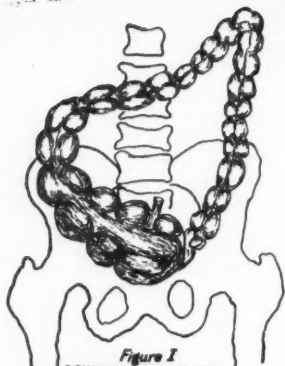


Figure I
DOWNWARD DISPLACEMENT OF ASCENDING COLON

push the uterus and adnexa into the left pelvic cavity and thereby produce pain and agony sufficient to eventually invalid the patient. It sometimes rests upon the rectal pouch and offers mechanical hindrance to the forward movement of the fecal stream. The downward drag on the right kidney gives pain and may pull the kidney downward with the ascending colon.

It is not my purpose to burden you with percentages or batches of statistics as to the incidence of this displacement. In fact, I have not been able to find any statistics that would indicate the frequency of this abnormality; however, this condition is fairly common, but is usually overlooked or neglected, and that is why I bring it to your attention at this time. Downward displacement of the ascending colon is an entity that deserves attention.

Every doctor who does careful clinical study of his gastro-intestinal cases, and then endeavors to correlate his findings and his laboratory data with his x-ray study and the patient's symptoms will certainly be able to make a correct diagnosis.

APATIENT suffering with this trouble is most likely to be a multiparous woman in the third or fourth decade of life—not invalided, but emaciated and weak and scarcely able to carry on. She drags along from day to day. She is generally below par. She has headaches, dizziness, loss of appetite, and all the other evidences of a severe intestinal toxemia. She suffers from constipation and definite fullness and pressure in the lower right pelvis, also intermittent sacral pain. She can do but very little walking or standing

and obtains her greatest relief by lying down flat or with the hips slightly elevated. Her C B C reveals poor blood quality and usually shows hypochromic anemia. The fecal study will usually show a heavy gram-positive diplococci infection associated with *Aerogenes capsulatus* and probably other hydrogen sulfide-producing organisms.

In a physical examination the typical patient will show low blood pressure, loose and flabby abdomen, mild tenderness low in right pelvis, tympany and some distention. Pelvic examination often reveals a sensitive uterus which may show procidentia or be displaced to the left.

Finally x-ray study shows a dropping down of the hepatic angle and a downward displacement of the entire ascending colon with the border of the cecum extending to the left edge of the spinal column or beyond, the cecum being usually turned slightly upward. A considerable portion of the opaque material will often linger in the cecum and ascending colon for several days.

In the past history this individual will have already stated that her ailment has been of gradual onset and that she has often sought relief at the hands of many good physicians.

With the completion of this study we conclude that the patient is suffering from a downward displacement of the ascending colon and that her systemic toxemia and pelvic and sacral distress are all a part of the general picture.

What can we do for the patient? In the years past I have put them to bed, on forced feeding. I have used laxatives, lubricants, hydrotherapy, electricity, ab-

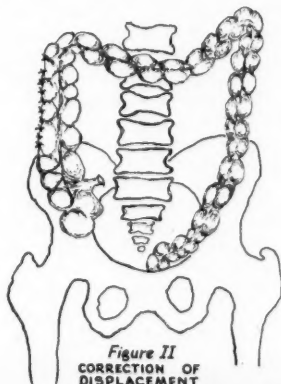


Figure II
CORRECTION OF DISPLACEMENT

MEDICAL TIMES, JULY, 1945

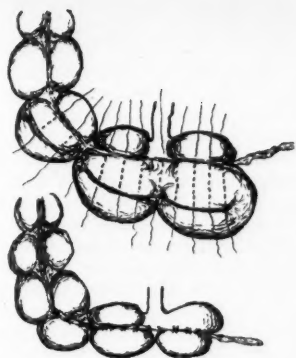


Figure III
DETAIL OF PLICATION

dominal supporters, and the vitamins (I would not leave them out), but in my hands these measures have been generally unsuccessful.

IT IS easy to let a patient like this drift along from month to month, but that is poor practice. More and more I am trying to school myself to make a job of every one of these cases that appeals to me for help, and to determine whether they are severe enough to be surgical or mild enough to be medical, and then act. This paper deals more particularly with the severe type. In each of them you will find that the areolar tissue by which the ascending colon is attached posteriorly is long and loose, or that the ascending colon is attached by a mesentery which itself is rather loose and flabby, or else the slumping downward of the viscus could never have taken place. In most instances it will be found that the cecum is elongated and dilated on account of the weight of the fecal mass it carries.

The correction of this difficulty is simple and, if it is properly done, there is good hope that you will save the life and obvi-

ate the morbidity of your patient.

May I briefly review the technique? Release any adhesions that may have developed about the cecum. Lift the ascending colon and cecum from the pelvis and restore this viscus to its normal position. Then select the anterior or lateral tenia or longitudinal band lying nearest the parietal peritoneum, and by means of interrupted intestinal sutures attach the gut firmly to the abdominal wall; then it will assume its original status. To insure permanent attachment the stitches should be applied for at least a four inch distance. Plication may be necessary if the cecum is greatly dilated.

Invariably the immediate and subsequent postoperative condition is highly satisfactory. Place the patient upon an anti-constipation diet, and instruct him as to the great necessity of copious water drinking, and try in every way to establish the habit of a night and morning defecation.

I READILY admit that tackling the case of a grunting, middle-aged, weak, emaciated, nervous woman, giving the history of a vague gastro-intestinal complaint, is not always a pleasant or promising pastime. Even if the diagnosis should prove to be downward displacement of the ascending colon and cecum, the correction of it lacks the fanfare and the drama that might be displayed when obstruction or ulcer or resection presents itself for consideration; but oh, how comforting it is to be able to bring a reasonable measure of relief to this long-suffering individual. Nobody gets a thrill out of treating common colds, but annually they cause the loss of more time and money, and possibly produce more suffering, than any other bodily affection. So it is with the correction of this colon condition; it pays high dividends, however, in relief of human torture.

800 S. W. NINETEENTH AVENUE.



Award to

Professor Vincent du Vigneaud

PROFESSOR Vincent du Vigneaud, head of the department of bio-chemistry, Cornell University Medical College, was recently awarded the William H. Nichols Medal of the New York Section of the American Chemical Society, one of

the highest distinctions in chemical science. Professor du Vigneaud was cited for his researches on biotin, called nature's most powerful vitamin. His discovery of the chemical architecture of biotin was announced at a meeting of the Section on October 9, 1942. In 1943 the synthesis of biotin was achieved in the laboratories of Merck and Company, Rahway, N. J.

THE CAPILLARY CARDIANT

Mark H. Smith, M.D.
Glendale, California

OVER a half century ago, Giulio Fano (*Brain and Heart, Lectures on Physiology*, Oxford University Press, 1926), by means of what would today appear as a quite primitive illuminating system, studied the developing cardiac tube of the embryologic chick of but a few hours incubation.

He found this arising in the cells of a forming channel which developed into the lower vena cava. Here began a pulsating, rhythmic evidence of fluid movement from a center soon advancing to the auricular sinus node.

Fano then studied the responses of the decorticated tortoise and ascertained that the same order of rhythmicity showed therein, evincing evidence of what he termed "so-called living matter."

In Krogh's investigation of the capillary system (*Jl. Physiology*, 1919), he found that all the capillaries of a given region are not filled with blood, for some are empty and some are apparently contracted.

This distinguished the cells of Rouget, which provide the initial movement of blood such as Fano discovered in the formation of the cardiac tube in the embryologic chick.

In the illustration of Rouget cells by Collens and Wilensky (*Peripheral Vascular Diseases*, Thomas, 1939), they are somewhat differently depicted from those of Vimtrup's display of 1922 as shown in Bayliss' *Principles of Physiology*, 1924.

Various illustrations represent these initial capillary units of contractile energy as being of unidirectional fluid movement, enwrapping the capillary as endothelial cells, expressing circular and longitudinal directed effects as propulsive agents.

IN this article's caption, "Cardiant," which means an assistant to the heart, is meant to put more meaning into the cell of Rouget.

It is seen as the integral pressure factor existing in the fluid streams of the body. Thereby it promotes the round of circulation.

All muscular effect is dependent upon the possession of a tonic property which is

initially expressed in the capillary cell. Therefrom and thereby the contractile effort is communicated to skeletal muscle proportional to structure and calibration.

One resulting effect is the production of blood pressure. Of this term one might rightly say that it in reality camouflages the problem of blood and fluid disposal.

The sympathetic nervous system has long been regarded as providing a governing factor in the distribution of the blood.

This condenses to an influence that is first manifested in the formative cells of Rouget in the endothelium of the single walled capillary. There is effected a tonic influence upon the neurons such as are deemed present in the vagus nerves.

The tenth nerve has in general been represented as being inhibitory in its influence but must in turn be a subject of inhibitory influence. In consequence the vagus nerve conveys both sympathetic and parasympathetic or both accelerating and deterrent influences.

The effects of the vagus nerve are quite broad and vary in distribution. This is particularly noticeable in the existence of shock syndromes of sufficient degree to affect the thoracic and abdominal structures which are supplied by the vagus nerves and which are subject to depletion of tonic properties.

Such atonicity pertains to the muscular energy which should normally exert contractile effects in capillary and arteriolar walls of one or more cell layers and which when depleted denotes shock as due to exhaustion of the tonic property.

Nerve cells like other structures must have a fluid or blood supply through capillary delivery. Otherwise the vagus nerve fails through depletion of its tonic property.

EXHAUSTION as a part of the shock syndrome is a matter of degree of traumatic effect, by which is meant any form of injury, chemical or otherwise, which pertains to the cell.

This is due to or associated with some form of faulty assimilation of oxygen upon the part of the cells affected.

While the needful oxygen may be available as under conditions deemed normal, and in sufficient amount even in a state of shock, yet its supply provides no certainty

as to its being the essentially needful nutritional form such as exists in the free or activated state.

To provide required benefit in its supply as in a remedial provision, oxygen must have an avid valency for associating with hemoglobin. This is essential in order to displace or replace the acidified compound that ensues from metabolism of substances by living cells.

As provided in the remedial supply from emergency tanks found at the bedside and elsewhere, the oxygen content has been largely freed from such atmospheric diluents as argon, nitrogen and other impurities which exist in the customary respirable supply of man's environment.

The shock syndrome for which oxygen is demanded illustrates the equivalent of an allergic manifestation. It represents a definite state which induces or may denote the presence of an acutely disintegrative or degenerative cellular condition.

The *modus operandi* for shock occurrence may not be as thoroughly understood as we may expect will be shown later in the course of the advance of science, through its having definite masquerading phenomena which attend biochemical and bio-electrical effects.

Functional conditions formerly embraced under the term of "acidosis" ensue from various disturbances if cells are exposed to biochemical change. Such inroads make excessive demands upon the normal physiological cell which has adapted normally to a standardized pH or hydrogen ion concentration, and which undergoes a reduction of its alkaline provision.

Through their nuclei, capillary fibrils are sensitive to any bio-electric effects such as occur in currents of inquiry denoting trauma.

To such sensitized nuclei a shock factor occurs in relative degree just as is observed in a severe state of emotional stress.

Thus shock represents the equivalent of an allergic reaction, as for instance that which ensues from sensitization to a foreign protein or similar type of injectable material.

For the capillary cell this may be from a most minor effect to that of an overwhelming state such as induces sudden demise.

In any event, it is the production of a state of atonicity in the cell fibril.

IT has been only in recent years that there has been any degree of support for the view of a contractile influence of the capillary cell toward reinforcing the systole of the heart.

It seemed to require rather intensive and repeated inquiry into the effects of surface capillarity before a partial acceptance of the role of these very small vessels conceded a possible major effect upon the circulation of the blood.

It would seem that all-sufficient evidence existed, in the role of the vasomotor system, to enlighten us as to the function of an inherent contractile capacity having root in the provision for overcoming a gross frictional impediment in minute vessels, with certain effects upon secondary and larger vessels.

The evidence provided in Lewis' experiments and by the laboratories of the several investigators who have devoted intensified efforts to establish provings have largely done away with the objections advanced but a few years ago.

To be overcome was the ancient and seemingly established view that the systolic contraction of the heart muscle was sufficiently powerful to sustain the circulating blood stream.

This persisted despite the fact that capillaries but half the size of red corpuscles undergoing circulation were fully capable of propelling, so to speak, such corpuscles.

The matter of blood pressure as an inherent element was reckoned as overcoming capillary friction despite the fact of hypotension being so great a factor in nullifying this benefit, as in shock.

Goldblatt's experiments in tying off renal arteries with ensuing rise in blood pressure might seem to eliminate the capillary cell as effective in such a result. However, there is little of confirmatory nature, arguing for banishment of the contractile property first established in the cell of Rouget and generalized to the skeletal structure for muscular effect on the circulation, in support of the dissension.

The integral factor physiologically expressed by the cell of Rouget is acceptable as providing competent control of the capillary support of arteriolar supply and in turn a greater demand, proportionally, upon a greater vessel.

Of the arteriolar event, Collens, in his *Peripheral Vascular Diseases*, Thomas, 1939 says: "The role of the arteriole in

the vascularity of the tissues is enormous. Through their constriction blood can be completely shut off and by their dilatation the tissues can be flooded."

THE Rouget cell is an endothelial cell endowed with both circular and longitudinal capillary powers expressed as a form of twisting, or spiraling, much after the manner of the heart, which, to some extent, twists the apex with the contractile effect of systole.

The alternate phasic states of capillary effect are not of the rhythmic character that is so pronounced in the cardiac cycle, although nature provides this feature for the reactions and responses which usually occur in and throughout the vertebrate body. In this connection, also, Prof. Brady of Harvard some years ago noted the same rhythmicity in the vegetable world in the swinging of a gourd or squash vine, back and forth, back and forth.

In general, however, such periodicity is not observed in the cell of Rouget, although Fano's experiments on the chick embryo, and more especially on the decerebrated tortoise, demonstrated the approach to a rhythmic response.

We observe a gross feature of timing in the case of the general or systemic circulation as produced by walking. The more a regular cadence, as military pacing or timing, is observed, the rate of regularity in assisting the heart is notable.

With each step an alternate phase occurs from the preceding muscular response. The contracting vessels move the blood toward the heart in the veins, holding the column by valves as in the heart.

The arterial blood descending the limb is alternately impeded, then its flow facilitated, through the medium of muscle pressure and relaxation.

This materially compensates for the gravity effect which in itself is a load of no small proportion to be overcome by the systemic circulation.

The advent of an erect state as in man, a biped, required a prolonged training effect upon the circulation as differing so radically from the quadruped.

Adaptation here required evolutionary changes to materially alter the circumstances of cardiac placement, support, structure and accomplishment as shown between the heart of the canine species and that of man. For this reason electro-

cardiograms based upon animal reactions cannot be made to apply to complexes that occur in the human. The cardiac architecture is not the same and derivations as to similarities may prove quite misleading.

This relates especially to the effect of posture upon the circulation, that which approaches the more quadruped type, as shown in the recumbent or resting state, which removes certain angulations of blood vessels, being of advantage in circulatory failure. Thus is noted the great benefit of rest in heart affections, relaxing the more primitive variety of circulation, namely, the skeletal.

- Rest states and in particular the recumbent position are essential in shock treatment regardless of what other measures may be undertaken.

Here is the most natural method of benefit to the capillary factor. Contracting capillaries are at a low point and tonicity most readily restored by the resting posture.

THE condition of exhaustion as it relates to shock states produces variable effects.

The persistence of muscular tremor may end with a muscle so exhausted as to encompass a failure of the tonic state, a loss of the contractile privilege.

Until such a moment there may be an otherwise invisible and alternate fibrillary twitching. This may be observed in electrocardiograms of tense or nervous patients. Or artefacts may show involving involuntary muscles, wherein phasic breathing or vermicular activities of the intestine show registration.

These are initially a capillary effect. While muscular contraction is not normally a persisting, non-interrupted contraction, this may occur in myocardial fibers as a fibrillation.

Rhythmic timing of systemic muscle undergoing contraction is not a normally observed function, yet conditions of alternate blanching, then flushing, of bodily areas are physiological.

As depicting an approach to or establishing the fact of an existing pathology, spasms such as tics, significant of any one of the more severe ailments, for example Raynaud's or Buerger's disease or other similar conditions, may be mentioned.

In some toxic states, however, are such tetanic phenomena as claudication, muscle

cramping, anginal disturbances of exhausted or anoxial muscles.

Brain waves of some periodicity, acting and resting phases of glandular function, alternate resting and active responses of kidney, liver and intestinal muscle are well known.

Fluid control, such as absorption and then re-supply of fluid to various sacs and spaces such as the pleura, pericardium, spinal canal, sinuses of the head, auditory chambers and peritoneum, depends upon the tonic effect of muscle fibrils.

Full tonicity may be held in capillary fibrils under conditions of abeyance, showing little evidence of life present and yet be in no way related to shock or allergic effects.

This is shown in the hibernating state of certain animals who go through a long season of hebetude, yet who experience a constant metabolic response supplying a needful cellular replenishment. But similar conditions are not unknown in the human species.

CORONARY capillaries supplying myocardial fibrils of such specific nature depend upon the same inherent tonicity that is required for any muscular response. This is evident when required for maintaining the rhythmic contractile property of auricular and ventricular systoles and latent diastolic events.

Hypotensive degrees of shock and the decrepitude of enfeebling senility exist with enough capillary tonicity for cardiac fibrils to produce cardiac sounds that may be weak, distant and incompetent through being spaced to long refractory phases.

A similar and yet deeper effect may rarely be observed where suspended respirations occur and wherein cardiac response seems arrested. This occurs with some professional fakirs who depend largely upon this recourse for show purposes.

These professionals depend largely upon what is called "Swallowing the tongue"; first, however, comes the filling of the stomach with air by swallowing, then its release by a learned automatic control in just sufficient amount to perpetuate a torpidity equivalent to the hibernating animal state. With these performers the pulse seems to have disappeared, heart sounds may not be detected, and a condition equivalent to "suspended animation" is produced.

Whatever the trickery may be, the act does exist just like the very infrequent equivalent performance of individuals who have appeared to be in the depths of so-called "trance" states and later been restored to normal conditions.

In such individuals the cardiac capillarity provides sufficient sinus blood supply to nourish these essential cells.

Every fibril composing the capillary wall has its nucleus wherein bio-electric manifestations of a rhythmic nature occur.

TWO outstanding critical conditions of great concern face man's health state, more or less intimately related to each other in periods of life, each etiologic to a degree in the occurrence of the other. Both are definitely related to capillary tonicity.

While seemingly different in many ways, yet with the advent of one there is sown the seeds of the other.

We may deem them allergic in origin, one being shock and the other coronary disease.

The latter as an allergic manifestation may seem questionable, but in being of a capillary origin, anoxial, and with cells involved which are limited in number or capacity and like capillary cells in such conditions as Raynaud's disease, the allergic mechanism seems revealed as the provocative factor.

With respect to trauma of the coronary arteries, nature shows an automatism of pronounced protection in reducing pressure effects to the minimum for myocardial need. This can only be a capillary control. Skeletal effort providing increased arterial pressure is a dangerous threat and must be modified for a long period after convalescence, during which period the contractile provision of capillaries suffices for sinus and Tawara node nourishment.

In this capillarity effect for the heart there is expressed the initiating contractility shown by Fano as integral in the primitive embryonic cells of the chick, which has been mentioned.

For the myocardial fibrils oxygen supply is most immediate, for the coronary arteries are the first divisional branches as the blood leaves the left ventricle, richly endowed with the essential element of oxygen.

As to the shock effect of coronary attacks, no other form approaches the ra-

pidity of appearance and the urgency for remedial benefit.

The intense suffering from pain is unapproached in any other shock state. This in itself adds more gravity to the capillary loss of tone, perceived, for instance, in the benefit which is provided by no other recourse than that which is extended in an otherwise dangerous dosage of morphine.

IN the past, as in the emergencies of the epidemic of influenza in the years of World War I, the acuteness of collapse required shock control.

Among the variety of treatments the idea of absorbing the overload upon the capillary circulation to relieve the failing heart seemed logical. However, the degeneration which had already affected capillary nuclei precluded more than one experience with depleting the blood volume or adding further load by way of transfusion or intravenous fluid supply.

As in shock generally, when cells, such as those of Rouget, had become clouded, their further compromise by adrenaline or pituitrin with the viewpoint of blood

pressure support, or the cardiac influences of the digitalis type of remedies, added to the systemic burden.

One might extend the results of experience in such shock dramas of influenza, wherein the respiratory system is severely involved, to the equivalent danger in quinine effects upon the heart.

Elsewhere in certain heart conditions quinine has shown its advantages, but in view of its being a proteid poison, paralyzant in effect upon nuclei, one learns to respect its dangerous properties in capillary involvement.

If for no other reason than the very frequent showing of allergic effects from the remedy, it should warn of its influence upon an anoxia of capillary cells.

THE field of shock influence upon the circulation warns of the danger which attends attempts to control the destiny of the automatic capillary cells which Fano showed developed the rhythmicity of the heart and the involuntary muscle control in the decerebrated tortoise.
1508 GRANDVIEW AVENUE.



EDITORIALS

—Concluded from page 186

When the State is a Deity medicine may expect rigid regimentation. The status of medicine will always be a criterion whereby to judge the Deity business.

Monopolies, Cartels and the Public Health

ACCORDING to the International News Service, Wendell Berge, the head of the Anti-Trust Division of the Department of Justice, sees monopolistic and cartel abuses bearing a relation to the poor health of many Americans. This is ascribed to the control of prices of

certain products, which the Assistant Attorney General lists. Excessive and arbitrary prices for products which are essential for good health are alleged to be charged. Among the things listed are spectacles, vitamin D and all types of surgical supplies.

The classic pre-war example of cartelization was the quinine traffic, when despite widespread and frequently fatal malaria only a few thousand acres of cinchona trees in Java were permitted to supply the world.

When the public health becomes one of the problems implicit in monopoly and cartel abuses it behooves the medical profession to take note of all happenings in this domain of human activity, to understand the implications, and to aid in the therapy of these social ills.

MEDICAL TIMES, JULY, 1945

CULTURAL MEDICINE

MICHAEL SERVETUS

Discoverer of the Pulmonary Circulation

CHAINED to the stake on the garden slopes of Champel, just outside the city wall of Geneva, at about 11 a.m. on October 27, 1553, Servetus awaited the application of the torch to the bundles of slow-burning green faggots piled about him. Upon his head was a crown of straw and green leaves, dusted with sulfur. Tied to his waist was a bundle of manuscript and fastened to his thigh was a printed copy of his book *Christianismi Restitutio*. He is said to have looked like the Christ in whose name he was bound.

Servetus was not kept waiting long, for impatient hands soon applied the fatal torch and the life of one of medicine's most deserving servants ended in the hateful flames. He recanted nothing. The religious beliefs which led to his destruction were the sincere outgrowth of his study and interpretation of the Scriptures.

The martyr's book was heretical in that it challenged the doctrine of the Trinity. Servetus was what would be called today Unitarian in belief, a belief comparable to that held later, say, by such men as John Milton, John Locke, Sir Isaac Newton and Ralph Waldo Emerson. For this belief he was first condemned to death but only burned in effigy, with five hundred of his books in actuality, by the French agent of the Inquisition. Making a successful jail-break, he had escaped into Switzerland. But his flight to Geneva placed him at the mercy of Calvin, Protestant autocrat and theocrat, so this trek was only a leap from a frying pan into a fire. At this time the fate of the Reformation in Geneva hung in a somewhat precarious balance and the propagation of such views as those held by Servetus filled the minds of the Swiss Reformers with panic and hatred. So he was promptly seized by the Protestant fuehrer's Gestapo and after a trial lasting two months, Servetus was condemned to death by the Council and Reformed Churches. Under

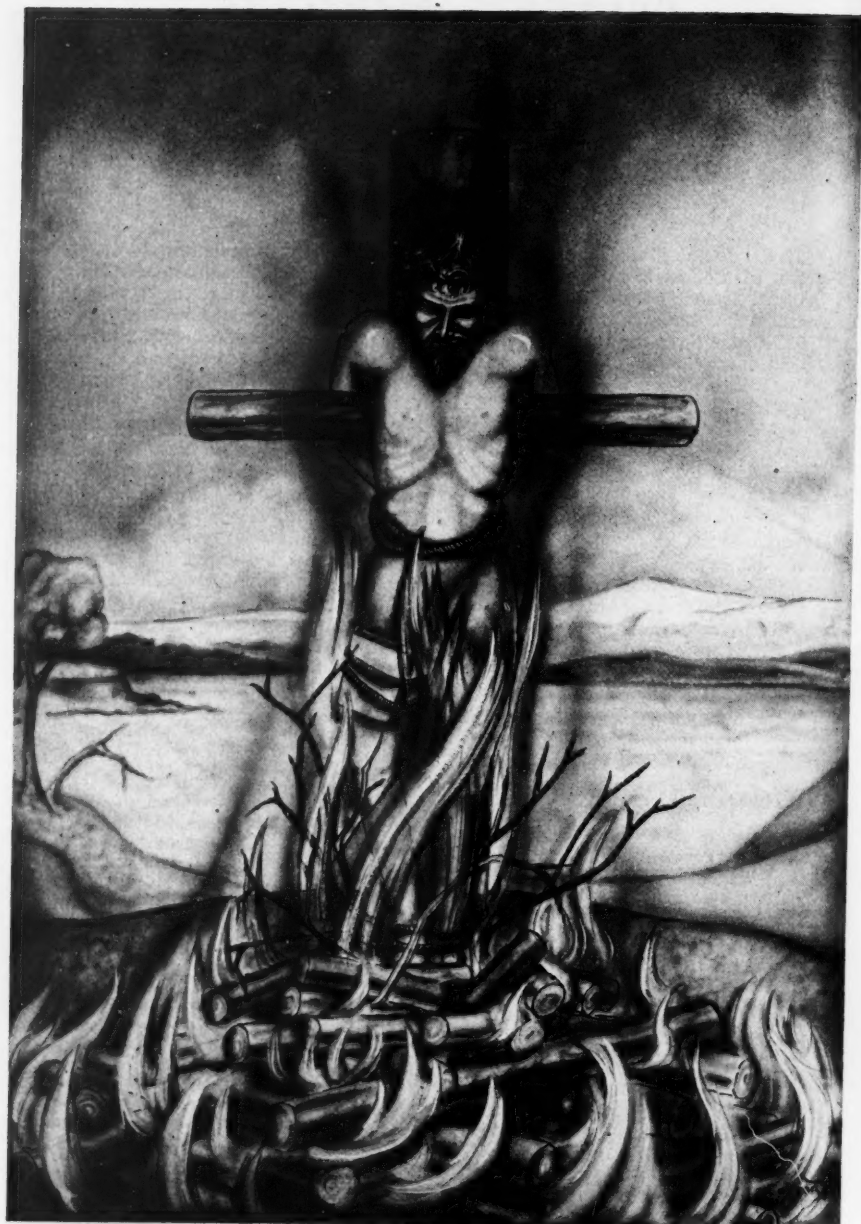
the law of the times heresy was punishable by death at the enthusiastic behest of ecclesiastical chefs experienced in the gentle art of human cookery, for which they were always superbly prepared with a choice assortment of stakes, chains, skewers, gravy ladles, and the cute garnishments dear to all culinary craft.

IT was not until 1697 that William Wotton published his *Reflections upon ancient and modern learning*, in which he tells how Charles Bernard, a St. Bartholomew's Hospital surgeon, had called his attention to the passage in *Christianismi Restitutio* describing very clearly the pulmonary circulation. Of course, by that time the pulmonary circulation had been rediscovered independently by others.

Why should such a description happen to be in an amateur theological treatise? Well, Servetus introduced it in order to illustrate a point concerning the Holy Spirit—after a mention of the threefold spirit of the body of man, natural, vital and animal [medical terms of the day], he discussed the vital spirit as a kind of analogy to the Holy Spirit.

We quote here the passage in question:

"Rightly to understand the question here, the first thing to be considered is the substantial generation of the vital spirit—a compound of the inspired air with the most subtle portion of the blood. The vital spirit has, therefore, its source in the left ventricle of the heart, the lungs aiding most essentially in its production. It is a fine attenuated spirit, elaborated by the power of heat, of a crimson colour and fiery potency—the lucid vapor as it were of the blood, substantially composed of water, air, and fire; for it is engendered, as said, by the mingling of the inspired air with the more subtle portion of the blood which the right ventricle of the heart communicates to the left. This communication, however,



The Burning of Servetus

does not take place through the septum, partition, or midwall of the heart, as commonly believed, but by another admirable contrivance, the blood being transmitted from the pulmonary artery to the pulmonary vein, by a lengthened passage through the lungs, in the course of which it is elaborated and becomes of a crimson colour. Mingled with the inspired air in this passage, and freed from fuliginous vapours by the act of expiration, the mixture being now complete in every respect, and the blood become fit dwelling-place of the vital spirit, it is finally attracted by the diastole, and reaches the left ventricle of the heart.

"Now that the communication and elaboration take place in the lungs in the manner described, we are assured by the conjunctions and communications of the pulmonary artery with the pulmonary vein. The great size of the pulmonary artery seems of itself to declare how the matter stands; for this vessel would neither have been of such a size as it is, nor would such a force of the purest blood have been sent through it to the lungs for their nutrition only; neither would the heart have supplied the lungs in such fashion, seeing as we do that the lungs in the foetus are nourished from another source—those membranes or valves of the heart not coming into play until the hour of birth, as Galen teaches. The blood must consequently be poured in such large measure at the moment of birth from the heart to the lungs for another purpose than the nourishment of those organs. Moreover, it is not simply air, but air mingled with blood that is returned from the lungs to the heart by the pulmonary veins.

"It is in the lungs, consequently, that the mixture (of the inspired air with the blood) takes place, and it is in the lungs also, not in the heart, that

the crimson colour of the blood is acquired. There is not indeed capacity of room enough in the left ventricle of the heart for so great and important an elaboration, neither does it seem competent to produce the crimson colour. To conclude, the septum or middle portion of the heart, seeing that it is without vessels and special properties, is not fitted to permit and accomplish the communication and elaboration in question, although it may be that some transudation takes place through it. It is by a mechanism similar to that by which the transfusion from the vena portae to the vena cava takes place in the liver, in respect of the blood, that the transfusion from the pulmonary artery to the pulmonary vein takes place in the lungs, in respect of the spirit." [English text of Willis: Servetus and Calvin, 1877.]

Servetus had made his anatomical studies at Paris under Sylvius, was prosecutor to Guinther, and a fellow student of Vesalius. He practiced medicine at Charlieu and at Vienne, near Lyons, in France, after teaching for a short time in Paris.

ON Sunday, November 1, 1903, an Expiatory Monument was dedicated to Servetus at Champel, on the very spot where he was burnt, by the Reformed Churches of France and Switzerland. The spirit of modern Protestantism is in the inscription:

Dutious and grateful followers of Calvin our great Reformer, yet condemning an error which was that of his age, and strongly attached to liberty of conscience according to the true principles of the Reformation and the Gospel, we have erected this expiatory monument. October 27, 1903.

A. C. J.



Polio and Rheumatism in Russia

SINCE the start of the war there have been few cases of polio in the Soviet Union, according to Dr. Sofia Markina, director of the Dzerzhinsky 400-bed Children's Hospital in Moscow. The virtual disappearance of poliomyelitis among Russian children is attributed by Dr. Markina to the wide dispersal of these children during the evacuation which took place early in the war.

Also reported is a decline in rheumatic fever among children, a decrease which

Dr. Markina feels is due to the lack of protein content in Russia's wartime diet. This dietary insufficiency, Dr. Markina pointed out, has, however, created other serious nutritional cases requiring sanatorium treatment. Citing an absence of epidemics as a whole, she indicated as a special wartime problem the rise in malaria carried by children who returned from evacuation points in Central Asia.

The staff of the Dzerzhinsky Children's Hospital, under Dr. Markina's supervision, is now making a study of wartime effects on the health of children.

SOCIAL MEDICINE

SOCIAL PHILOSOPHY AND THE PHYSICIAN

H. Kenneth Scatliff, M.D.

Evanston, Illinois

ONE of the problems confronting the physician and deserving of discussion from time to time is the attitude of the physician toward certain social ideas and customs.

One of these is illustrated by the campaign of the United States Public Health Service and other public health agencies against venereal disease. This has been considered solely as a biologic phenomenon, and perhaps that is the only way the physician should consider it. Any question of moral delinquency in connection with the same has been tossed out of the window by the agencies of which we have spoken.

Whether this casual attitude will be harmful to our social structure in the future, only time will tell. Probably no more so than the ravages of the diseases themselves. However, it would be more ideal if we could hold the gain made by society against widespread and frank immoral practices by social taboos and improve at the same time the general hygiene of the public by elimination of disease by more scientific means.

ANOTHER problem the physician meets in everyday life is the role of Faith and religion in sickness and ill-health. Has prayer a place in today's sick-room? Can Faith replace the sulfonamides or penicillin or insulin? The physician is quick to answer "No. Of course not". But in view of our relation to the public that answer can stand a little examination. In the first place it does not completely satisfy a large section of the general public. And secondly, it is quite apparent that man's life is influenced by forces other than pills or the physical means at our command. Finally, it is believed that most physicians would agree with the thought that it is Nature which does the curing, while the doctor supplies the tools and the understanding. To answer the ques-

tions first put, then, let us suggest a few definitions.

Faith as used here means a personal knowledge and confidence in a Divine Creator; an attitude toward life that acknowledges a Power above and beyond and outside one's individual self, of which one is a part, cognizant that the Force is greater than the individual.

Prayer is the act of offering reverent address to the Power spoken of under Faith.

Now on more familiar ground, we can consider sickness to be any change or disordered state on the part of an individual from his usual manner of feeling, thinking or acting. These changes or disorderly processes are brought about by many causes. Specialized training and study are required fully to understand the causes which serve to divert normal physiologic processes. Faith therefore aids but cannot replace measures designed to, first, understand perversions of otherwise normal processes and then, second, to adjust or influence such perversions. Thus prayer undergirds and underscores the aid which Faith brings to patient and physician alike.

A CURRENT philosophy — which is really a sophistry — asserts that sickness is Evil, that God is Love (or Goodness) and since God is infinite there is therefore no room for evil; ergo, there is no sickness. Now sickness is not necessarily evil. Agreed it is not good, but regardless of what the afflicted one may think about it, sickness is the result of certain vital reactions which may or may not be entirely understood at the time.

It has been said that our constant prayer should be that we endeavor to understand and live within God's will. On that basis and to be quite elementary for a moment, it can be said that if God wanted another island out in the Pacific, it would be quite understandable that the violent and evil earthquake which produces it might shake down a part of San Francisco. Similarly, God might desire that a person whose life is so situated that it touches many others be changed

for the good influence such a life might create. In such circumstances we can more readily understand that particular prayer in a service for the Visitation of the Sick which says, "Sanctify, we beseech thee, O Lord, the sickness of this thy servant, that the sense of his weakness may add strength to his faith and seriousness to his repentance; and grant that he may dwell with thee in life everlasting . . ."

It is not our purpose to discuss the subject of prayer itself. That has been done by competent individuals, whereas the present writer is but one more seeker after truth. Nevertheless it may be pointed out that prayer calms the mental processes by subduing rebellious and irritable reactions, it conditions the mind to a receptive and harmonious state, and it is the doorway to an understanding of our own dependence. Even considered physiologically, these are wholesome influences.

It has been stated that sickness is not of necessity EVIL — that is, not evil personified; that it is a disturbance of normal physiologic processes. These diversities are brought about in many ways. Briefly, the eternal conflict of interests between our physical lives and other, smaller lives of vegetable or animal origin (namely, the bacteria or parasitic organisms) is one cause. Other causes are those affecting the environment of the individual, as climatic, barometric or thermal changes, and many, many other considerations enter into the question. We have changes brought about by external forces — trauma, by internal irritants: chemical, toxic or cellular; by nutritional or degenerative changes within the economy.

A LARGE group of disorders to be thought of in a discussion of this

kind are the psychosomatic syndromes. By use of this terminology one does not imply that we separate the intelligence from the physical body; we mean rather any disease, or group of diseases, in which somatic disorders are brought about by disturbed mental processes. Or, the other way around, in which we see a combination of organic disease with functional nervous and psychogenic symptoms. The first is brought about by the constant impact and repercussion of psychic or mental disturbance (such as anxiety, emotional tension, mental conflicts) on one's physical economy. The second is illustrated by the undue apprehension and fixed ideas some individuals exhibit toward signs and symptoms of possible organic disease when the same are accompanied by a rapid heart action, a heightened blood pressure, a painful sensation or any other symptom not understood but falsely interpreted by the individual.

ONE might go on and explore each of these causes of ill-health with their many subdivisions but even the few data presented are sufficient to demonstrate that special knowledge and especial thought must be employed in each case of sickness. They are enough also to illustrate that sickness and ill health are sufficiently complex to cause us to welcome with glad accord every aid, be it medicinal, physical or Divine.

This is a middle of the road view. By following it we avoid the advice of dream-world dwellers whose heads are continually in the clouds, and avoid, equally well, the guidance of those materialistic individuals who think that man can live by bread alone.

410 FLORENCE AVENUE



Expectation of Life Studied at Duke University

Hornell Hart and Hilda Hertz, of the Department of Anthropology, Duke University, have made their first report on studies on expectation of life as an index of social progress.

They have found that the average expectation of life at birth in seven Euro-American countries increased from 41.06 in 1840 to 61.70 in 1930, an increase of 50.3 per cent in 90 years. The seven countries for which data are available are

the United States (represented by the state of Massachusetts), Denmark, England and Wales, France, Netherlands, Norway, and Sweden.

Government efficiency and honesty, they report, are reflected by high expectations of life. Where governments are corrupt, badly organized and inefficient, the health departments and hospitals are likely to be failing in their tasks, while the water and milk supplies are likely to be contaminated by disease-bearing bacteria. Good health and low death rates reflect a well-educated and informed public, they conclude.

CONTEMPORARY PROGRESS

OTOLOGY

Plastic Reconstruction of Acquired Defects of the Ear

A. J. SURACI (*American Journal of Surgery*, 66:196, Nov. 1944) emphasizes the value of plastic reconstruction of acquired defects of the auricle, not only for cosmetic reasons, but because the auricle "does aid in hearing and in the localization of the origin of sound." He has frequently noted improvement in hearing following successful reconstruction of the auricle. Acquired defects of the ear may be due to trauma, burns, infection, or malignant growths. In war time, cases of trauma to the ear are increasing, not only due to injuries in actual combat but also in the Army training program. When there is only partial loss of the ear, a folded flap from the postauricular region is used for repair. In reconstruction of the ear, it is important to have the new ear of a shape and size similar to that of the normal ear, at the same angle from the head, and at the same relative height. The author has found that when the final reconstruction is completed, the new auricle should be slightly larger than the opposite ear, as there is a tendency for such reconstructed auricles to shrink. Autogenous costal cartilage from the eighth or ninth ribs, or nasal septum cartilage in adults is usually used to form an adequate support for the new auricle and molded to reproduce "the various eminences and depressions" of the normal ear and the external auditory canal. If cartilage cannot be used, a bone graft from the iliac crest, properly shaped, may be employed. At the first stage of the operation, a flap is outlined in the temporomastoid region at the level of the opposite ear; the incision for emplacement of the "patterned cartilage" is made along the posterior inferior border, undermining the skin so that it fits snugly over the contours of the cartilage. At the second stage of the operation, the cartilage is elevated

to form the support of the new auricle; a split thickness skin graft is placed behind the ear flap and stented into place. The skin of the lower neck is usually employed in men for the soft tissue reconstruction. A pedicle flap is outlined and undercut in the neck and then resutured into its bed, so that it will develop its own blood supply while the split thickness graft behind the ear flap is taking. When the tissues are ready, the neck flap is again elevated; the distal end is sutured to the region of the spina helix above the external auditory meatus, and the remainder is used to form the helix around the cartilage supported mastoid flap. A split thickness graft is placed in the bed from which the neck flap was taken. The pedicle of the neck flap is left attached until the helix has healed; and is then detached and used to form the lobule of the ear.

COMMENT

War injuries, as in World War I, will give opportunity for a tremendous amount of reconstructive surgery. Rebuilding of external ears will be a part of this program. Hearing will probably be aided by such plastic surgery only when that surgery reopens a closed external auditory meatus.

L.C.McH.

Lempert Fenestra Nov-Ovalis with Mobile Stopple, a New Advance in the Surgical Treatment for Clinical Otosclerosis

JULIUS LEMPERT (*Archives of Otolaryngology*, 41: 1, Jan. 1945) reports the surgical treatment of 1000 patients with clinical otosclerosis by fenestration of the labyrinth. In 300 cases, the fenestra was created in the semicircular canal, in 700 in the surgical dome of the vestibule. In 815 of the 1000 cases, the preoperative diagnosis was "clinical otosclerosis with good hearing for bone-conducted sound." Serviceable hearing resulting in "complete rehabilitation for social and economic con-

facts" was obtained in 571 of these patients; improvement in hearing permitting partial rehabilitation was obtained in 92 cases. In 185 cases in which hearing was poor for bone conduction previous to operation, improvement in hearing sufficient for complete rehabilitation was obtained in 42 cases, and for partial rehabilitation in 39 cases. In 9 of 50 cases in which the original operation was done more than four years ago, a revision of the operation was done; the hearing again showed definite improvement in 3 of these cases. The two major obstacles to obtaining greater success with the fenestration operation were found to be closure of the newly created fenestra by new bone formation and damage to the organ of Corti resulting from serious labyrinthitis. From a study of these two "major causes of defeat," the author finds that it is not necessary to keep the fenestra open continuously to maintain improvement of hearing, if the closure is mobile.

The author has, therefore, developed a method of creating a fenestra nov-ovalis with a mobile stopple. In this operation after fenestrating the bony capsule of the surgical dome of the vestibule, the presenting surface of endosteum is removed, and the endolymphatic labyrinth within the perilymph space exposed to view. The length and width of the "fenestral gap" is measured; a small piece of cartilage from the anterior margin of the concha forming the outer boundary of the membranous portion of the posterior wall of the external auditory canal is removed, and fitted into the fenestra, so that it closes it completely. This is then cov-

ered with the tympanomeatal membrane. This operation has been done in 10 cases. In all cases hearing was definitely improved immediately after the fenestration operation; and in 8 of the 10 cases, this hearing improvement was maintained at "the highest originally obtained level." In the 2 cases in which improvement was not maintained the stopple evidently did not remain mobile.

COMMENT

This article is a very beautifully done monograph giving a detailed study of the fenestration operation by the master in that particular field. This operation now offers restoration of hearing to a very high percentage of patients who have "clinical otosclerosis". Dr. Lempert is very frank in discussing the indications, limitations, and technical difficulties of the procedure.

L.C.McH.

Meniere's Symptom Complex: Observations on the Hearing of Patients Treated with Histamine

H. I. LILLIE, B. T. HORTON, and W. C. THORNDIKE (*Annals of Otolaryngology, Rhinology and Laryngology*, 53: 717, Dec. 1944)

report a study of the hearing in 25 patients with Ménière's symptom complex treated with histamine at the Mayo Clinic. In all these cases histamine was given at first intravenously, 2.75 mgm. of histamine diphosphate (1 mgm. of histamine base) in physiological salt solution (250 cc.), or in a 5 per cent solution of dextrose (250 cc.), or in 0.8 per cent solution of potassium chloride, at the rate of 20 to 60 drops per minute. This dosage was given daily for three to six days. In conjunction with or following the intravenous injections, subcutaneous injections of histamine were begun, using a 1:10,000 solu-

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tion of histamine base; the initial dose was 0.2 cc., increased by 0.5 cc., twice daily, up to 1.0 cc. or until an optimal dose was reached. The patient then continued daily injections of histamine, gradually diminishing the dose according to the response to treatment. Audiometric studies were made in a soundproof room on these 25 patients. An improvement of at least 15 decibels in two or more frequencies was considered to indicate a definite improvement in hearing. These studies showed a definite improvement of hearing in 12 of the 25 patients during histamine treatment. In 3 cases the improvement was slight, in 3 cases moderate and in 6 cases "very noticeable." In 4 of the 6 cases showing the most marked improvement, histamine had been given in the potassium chloride solution. Three of the 12 patients who had showed improvement in hearing later returned to the Clinic because of an increase in the deafness; all were given histamine intravenously but only one showed any improvement in hearing. The presence of diplacusis was looked for in 15 of these patients and demonstrated in 14; in a large per cent of these cases the tone was heard at a lower pitch in the involved ear. Tinnitus was present in all but one of the 25 patients before treatment; it disappeared completely in 2 cases; was greatly improved in 8 cases, slightly improved in 3 cases, showed "questionable" improvement in one case, and no change in 10 cases. Vertigo showed the best response to treatment; 23 patients were having "episodes" of vertigo before treatment was begun; the vertigo completely disappeared in 19 patients while under treatment, and 2 showed great improvement. Patients under histamine treatment usually showed improvement in their general condition and reported a subjective improvement in hearing, which was not demonstrated by the audiometric tests.

COMMENT

The benefits of histamine treatment for these patients would seem to be primarily in relief of their distressing vertigo and only incidentally in relief of hearing loss. The chief

difficulty in the use of this treatment would seem to be in determining in which patients the histamine treatment is indicated.

L.C.McH.

Hearing Tests; An Evaluation

C. W. SHILLING, I. A. EVERLEY and J. D. HARRIS (*United States Naval Medical Bulletin*, 44:100, Jan. 1945) present an analysis of the value of the hearing tests in common use in the Navy, in comparison with the audiometric records in 500 men (1000 ears tested). On the basis of the findings in these cases, the authors conclude that the spoken voice test is "practically worthless" as an index of hearing acuity. The whispered voice test, however, was found to be very effective in "screening out" ears with seriously defective hearing for high tones and concomitantly more or less defective for low tones; the correlation between the loss of hearing for low tones as shown by the audiometric tests and the whispered voice test was "significant but not high." The coin click test showed results very similar to those with the whispered voice test, although the correlations with the audiograms were not quite as high or as reliable. The whispered voice test also screened out more defective ears. The watch tick test shows loss of hearing for low tones to a lesser degree than either of the other two tests. It may be useful for differentiating loss of hearing for high tones with normal hearing for low tones, which are not screened out by the other tests. Low tone hearing loss independent of high tone hearing loss was not detected by any of these tests. The technique of giving the various tests must be carefully standardized.

COMMENT

The testing of hearing will probably never get beyond the limitations of the patients' alertness in responding to test sounds. In the near future we shall be able to test hearing by carefully calibrated speech and determine hearing losses in decibels for speech.

L.C.McH.

MEDICAL TIMES, JULY, 1945

PHYSICAL THERAPY

Underwater Treatment Tank

A. M. PRUCE (*Archives of Physical Medicine*, 26:23, Jan. 1945) describes an underwater treatment tank of the Hubbard type, constructed of wood with a metal lining, that can be used in a general hospital. It can be equipped with a motor-driven agitator which adds to the therapeutic value. Arm and leg whirlpool baths are of value for the treatment of elbow and wrist joints of the upper extremity and knee and ankle joints of the lower extremity, but for the treatment of injuries of other joints immersion of the whole body is necessary. If the patient is not ambulatory, a Bradford frame is used to lower him into the tank and support him in the water; an inflated rubber cushion open in the center is used as a headrest. This underwater tank has been found effective in the treatment of low back strain; gunshot wounds of the hip and shoulder; fractures of the shoulder, upper arm, hip and thigh; multiple fractures of the extremities; multiple rib fractures; shoulder dislocations after reduction; acute burns involving large areas of the body; chronic burn ulcers on the extremities; peripheral nerve injuries of the lower extremities; and after plastic surgery to the axilla.

COMMENT

There is no single piece of apparatus that can give as much satisfaction to patient and operator as the whirlpool bath, which combines warmth, 103-107 F, the soothing and/or stimulating effect of water and the remedial effects of the hydromassage and exercises under water. Whether for one or two members or for the general body there is quick response. Whenever and wherever possible the general bath should be given as it gives a splendid uplift to spirits and hopes and a special sense of well-being. The hydro-massage induces the patient to exercise and the buoyancy of the water makes the exercises easier to do, since the strain of gravity is removed. Spastic muscles relax, painful ones are soothed, stiff ones are moved—the patient has the will to move. Burned backs, chests and extremities, from which dressings being removed spelled torture previously, now when immersed in warm soothing water which loosens gauze and cotton without effort and removes necrosed and infected tissue and softens scars recover more rapidly and in comfort, and soothing sleep ensues. So too with peripheral nerve in-

juries which are sedated more easily with this procedure. In subacute and chronic anterior poliomyelitis and in spastic paralysis, osteoarthritis, hemiplegias, weak and painful feet and other orthopaedic conditions, the underwater treatment tank is of great usefulness. It goes without saying that the properly trained, skilled technician and the physician experienced in the indications and contraindications of hydrotherapy are more essential than spectacular equipment and palatial quarters.

M.C.L.McG.

Physical Therapy in a Plastic Surgery Unit

H. C. WILSON (*Physiotherapy Review*, 25:3, Jan.-Feb. 1945) describes various types of physical therapy employed in a plastic surgery unit. In the preparation of third degree burns for skin grafting, the saline bath treatment is often used. Either a full length bath, an arm bath or a foot bath may be employed, according to the site and extent of the burn. The saline solution is kept at body temperature; the bath should be constructed so that full range movement of each joint is possible; for full-length baths, large T-shaped baths are best to obtain abduction of legs and elevation of arms. The advantages of such baths in third degree burns are that (1) they enable patients to move each joint through as wide a range as possible without restriction by dressings which are allowed to float off; (2) it is soothing to the raw areas and the patient feels comfortable; (3) the warmth aids circulation and joint mobility. Three to six movements of each joint are sufficient in the early stages of treatment. Later underwater massage may be used to build up muscle tone; and still later underwater exercises may be employed. This same method is also employed to aid healing in second degree burns, for which skin grafting is not necessary. After second degree burns have healed, and also in third degree burns after skin grafts have healed, a course of lanoline massage and graduated exercises is carried out until the patient is discharged. Lanoline friction massage improves the blood circulation and assists resolution or the softening process in scars; it also improves the condition of the new skin in grafted areas. The use of lanoline acts as a lubricant for

the hands of the physical therapist and prevents trauma to the newly formed skin. Lanoline friction massage is also of value in the treatment of small scars due to other types of injury that are slightly adherent; and is employed in all types of skin grafts when healed. In cases of injuries to the lower extremity in which a tube pedicle graft is transplanted from the abdomen to the wrist and then to the injured extremity, the injured limb can be treated by physical measures through all stages. Manipulation of joints and massage are important in these cases.

COMMENT

The saline baths for severe burns here described are excellent for the purposes desired—comfort, sedation, circulation, healing and joint mobility. Gentle active exercises, which means what the patient does himself, are permissible from the beginning if not overdone. Passive and the active assistive are next in order. Gentle movement prevents stiffness, pain, contractures, disability. The lanoline massage is excellent to improve circulation, protect skin and grafts and especially about joints for limbering up and preventing irreversible changes. When the joints are quite mobile from manipulation and massage, active resistive exercises properly graduated will be of most service in getting the man back to his job.

M.C.L.McG.

Refrigeration in Trauma of the Extremities

R. T. McELVENNY (*Surgical Clinics of North America*, Feb. 1944:192) has employed a machine for refrigeration of the extremities, instead of using ice for this purpose. This machine will cool the tissues to 10°F. above zero. It is portable and practically noiseless. The attachments in which the cooling fluid circulates are of rubber tubing held by a material that is shaped to various parts of the body. The affected extremity is placed in a layer of thin towels or gauze, the flexible attachments of the cooling machine wrapped around it, and the machine adjusted for the temperature desired. The temperature is adjusted gradually so that the shock of ice therapy and the discomfort of the first few minutes when ice is employed are avoided. The great advantage of refrigeration for traumatized or infected extremities is that cold reduces the absorption of toxins, holds infection in

abeyance, eliminates or greatly reduces pain and prevents or combats shock. Under these circumstances immediate operation is not necessary if the patient is in poor general condition, as, for instance, a diabetic patient with a gangrenous limb. Time may be allowed to improve the patient's general condition and prepare him for operation by appropriate therapy. The temperature of the affected extremity is lowered to and kept at 10°F. above zero. Patients have been kept in this condition for as long as eight weeks; during this time they are comfortable and the limb "for all practical purposes" is amputated. When the patient is in satisfactory condition for operation, the apparatus is removed about twenty minutes before operation, the limb elevated and the tourniquet applied. Intravenous pentothal sodium and nitrous oxide and oxygen are employed during operation. In the author's opinion, the least important part of cold therapy is the fact that amputation can be done painlessly without any other anesthetic. The "great forte" of cold therapy is to produce "painless physiological amputation" so that the patient can be prepared for a general anesthetic which carries little risk with modern methods. The author also suggests that in cases of malignancy, freezing of the part before amputation or resection might prevent implantation or spread of malignant cells.

COMMENT

Continuing his work with refrigeration of extremities, McElvenny seeks to avoid the shock of the first application of ice, as well as the messiness of the melting ice, by using a cooling machine. This permits gradual induction and is more comfortable, especially if it is to remain for any length of time. "Painless physiologic amputation" is the desideratum whilst aiding the patient to become a better operative risk. This precludes the all too frequent surgical interference often indulged in by those who have not learned that "hands off" is the most important treatment of any case of peripheral vascular disease, but especially where infection and gangrene threaten or are present. "Watchful waiting" should be the slogan of all those in any way interested in the treatment of this particular entity. Daily probing for pus with the spread of infection is one of the surest means to court disaster. The picture in peripheral vascular disease may or may not change daily; patience and "hands off" until the desired result is achieved is still the best slogan. Eventual amputation is the result of not bearing this in mind.

Refrigeration in cancer, local and general, as done by Temple Fay and Lawrence Smith at Temple University Hospital remains the classic in this particular work from which has stemmed all that has followed. A re-reading would benefit all those who contemplate doing this work—there are many lessons to be learned, much experience to gain. All of us from this research have been taught again old truths we had forgotten, good methods we had discarded.

M.C.L.McG.

Artificial Fever and Chemotherapy in Early Syphilis

H. WORLEY KENDALL and associates at the Kettering Institute of Medical Research, Dayton, Ohio (*Archives of Physical Medicine*, 26:76, Feb. 1945) report the use of combined fever and chemotherapy in 77 patients with primary or secondary syphilis from 1932 to 1940. The course at first consisted of approximately fifty hours of fever therapy in the hypertherm maintaining an average rectal temperature of 105.8°F., given as a rule in ten weekly sessions of five hours each. Subsequently shorter fever treatment (three hours) were given at more frequent intervals (two or three times a week) for a total of thirty-six hours with the same average rectal temperature. No essential difference in the clinical or serological response was observed with these different methods of fever therapy, both of which were combined with arsenic and bismuth therapy. Of the 77 patients treated 17 have not been adequately followed up. In 60 patients frequent follow-up examination and serological tests were made for two to ten years after completion of the combined treatment. In a few of these cases more than one course of treatment was necessary before complete serological negativity was obtained. None of these patients have shown relapse and none have developed either symptomatic or asymptomatic neurosyphilis. In experiments on rabbits it was found that results were better when the antisyphilitic drug was given immediately prior to rather than immediately after fever therapy. It was also shown in these experiments that a subcurative dose of neocarsphenamine combined with a subcurative dose of artificial fever gave better results than larger amounts of the drug or of fever alone. When the intensive method of chemother-

apy of syphilis with mapharsen and bismuth was introduced, a combined intensive method was used in 37 patients. With this method an intramuscular injection of bismuth was given just before fever treatment (4 grams bismuth subsalicylate in oil), and mapharsen was given intravenously during fever treatment (120 to 240 mg.). Fever was maintained at 106°F. (rectal) for ten hours. One of these patients, a woman 42 years of age, died three days after treatment. In all other cases, syphilitic lesions healed completely within one to two weeks, and serological reactions eventually became negative and have remained so to date (except that one patient has not been followed up). Urine and blood examinations showed no significant changes during and after the treatment period in 6 cases. Thirty patients, including the one who died, showed evidence of dehydration as determined by changes in the specific gravity of the serum; and albumin and casts in the urine twenty-four to forty-eight hours after treatment; there was also a rise in serum bilirubin and a decrease in hemoglobin. These changes persisted on an average of five to ten days. Similar analyses in patients with gonococcal infections treated with fever therapy combined with sulfonamides did not show significant blood and urinary changes, indicating that in the patients with syphilis damage to the liver and kidney were due to the arsenic and bismuth rather than to the fever therapy. However, the authors do not recommend the combined intensive method of treatment described as a routine for the treatment of early syphilis. They are of the opinion, however, that it will eventually be possible to demonstrate a method for the combined use of fever and chemotherapy in one or more sessions that will obviate the necessity for long courses of combined therapy.

COMMENT

The search for a safe way to quickly clear up syphilis continues through a mounting literature on the subject. The early 10 weekly treatments of high fever, about 106° or more, and the chemotherapy before, after or during, have given way to shorter intervals, less fever and usually the chemicals precede the fever, in smaller dosage. Intensive treatment is to be approached with caution in many patients as fatalities have occurred in certain cases where liver and kidney were damaged by

medication or the disease. Dehydration is to be guarded against by proper previous measures.

Apropos of fever per se, Harvey and Billings in the *American Heart Journal*, St. Louis, February 1945, report that three patients, aged 19, 24, 25 years, respectively, developed electrocardiographic changes, typical of occlusion of a coronary artery, following hyper-

thermy for chronic gonorrhoeal urethritis resistant to sulfonamides. In 15 cases subsequently treated, 2 cases likewise showed changes in the E K G and several others showed transient cardiac arrhythmia in addition to minor changes. In none of the cases were there previously any serious symptoms referable to the heart. The importance of due care must be stressed in the giving of fever.

M.C.L.McG.

NEUROLOGY

Subarachnoid Administration of Pyridoxine Hydrochloride in Diseases of the Nervous System

S. STONE (*Journal of Nervous and Mental Disease*, 100:185, Aug. 1944) reports the intraspinal administration of pyridoxine hydrochloride in 26 cases of various disease types of the central and peripheral nervous system. The average dose was 30 mg. for children and 50 mg. for adults; one to four injections were given. A definite improvement was noted in the general condition and ward behaviour of patients with paresis and taboparesis; dysarthria and tremor became less pronounced in these cases; and there was improvement in gait and coordination. A similar improvement in "personality status" was observed in one case of Korsakoff's psychosis. In one severe case of Sydenham's chorea, complete recovery resulted from three injections of 50 mg. pyridoxine; 2 other cases also showed marked improvement after a single injection. In postencephalitic parkinsonism the intraspinal injections of pyridoxine reduced rigidity and improved the sense of well-being, but did not affect the tremor; continued administration of stramonium or atropine was required. In cases with peripheral nervous system involvement favorable results were also obtained with intraspinal injection of pyridoxine, "irrespective of the original cause of the nerve damage." The favorable effects of this treatment are not related to replacement of a vitamin B deficiency. All the patients treated had been given an ample supply of mixed vitamins before the pyridoxine therapy was instituted, and none had shown signs of vitamin B deficiency at any time. The therapeutic effect of intra-

spinal injections of pyridoxine is best explained on the theory that injured nerve tissue requires greater amounts of pyridoxine than normally and that intraspinal injection supplies it directly to the injured tissues. Pyridoxine may be combined with other vitamins, especially thiamine chloride.

Subacute Degeneration of the Brain in Pernicious Anemia

R. D. Adams and C. S. Kubik (*New England Journal of Medicine*, 231:1, July 6, 1944) report 2 cases of pernicious anemia, both in women fifty years of age, in which there were definite mental symptoms in addition to symptoms and signs of spinal cord involvement. Death in each instance was due to intercurrent disease. Autopsy in both these cases showed typical lesions of pernicious anemia. In the spinal cord and brain, the characteristic pathological changes were diffuse uneven degeneration of nerve fibers in the spinal cord and in the cerebral white matter. The lesions in the brain resembled those in the spinal cord so closely that "there could be little doubt concerning their identity"; they were easily distinguishable from the lesions of other diseases involving the cerebral white matter and from those of *pellegra*. A review of the literature shows other cases reported of pernicious anemia with mental symptoms in which autopsy showed similar lesions of subacute degeneration of the brain. While mental symptoms have always been noted in cases showing such brain lesions, the converse is not necessarily true. The authors conclude that subacute combined degeneration of the spinal cord and subacute degeneration of the brain represent

an advanced stage of a specific process in pernicious anemia and that this process is due to a deficiency of some factor or factors necessary to the metabolism of myelinated nerve fibers.

The Treatment of Post-Traumatic Head Pain

O. W. JONES, Jr. and H. A. BROWN (*Journal of Nervous and Mental Disease*, 99:668, May 1944) have studied a group of patients who developed headache, often accompanied by dizziness, after head trauma. At the time of the trauma, some of these patients were unconscious, others "dazed," while some showed no disturbance of consciousness. Examination of these patients showed that many of them held the head and neck in "rather a fixed position"; in others movement of the head and neck was "relatively free," but forceful rotation increased the pain. If the head pain was bilateral, palpation demonstrated tenderness along the superior nuchal line, with areas of maximum tenderness over the greater occipital neurovascular bundle at the point where it crosses over the superior nuchal line and pierces the deep fascia; or along the course of the greater occipital artery for a distance of 4 to 5 cm. below the superior nuchal line. If the head pain was unilateral similar areas of tenderness were demonstrated on the involved side. These findings indicate that in a certain percentage of patients who have head pain following injury to the head, this is not due to intracranial changes but rather to traumatic fibrosis in the soft tissues about the head and neck. In 120 patients showing signs of such traumatic fibrosis, treatment consisted of injection of 0.5 or 1 per cent procaine hydrochloride solution in the area of maximum tenderness, usually in the region of the greater occipital neurovascular bundle; 20 to 30 cc. of the solution were injected through the skin, subcutaneous layers, fascia, and muscles down to the pericranium. The use of such large amounts of the solution tends to "stretch and balloon up" the deeper tissues, which is probably a factor in obtaining more permanent relief. Some patients complain of a "tight sensation" produced by the injection, but this subsides promptly. The relief of the head pain was often "immediate and dramatic";

the patient could move his head freely without causing symptoms. If dizziness was present, especially if it had been aggravated by extension and flexion of the head and neck, this was usually relieved. In some cases the relief was permanent or of long duration following a single injection; in others injections were repeated, if satisfactory temporary relief had been obtained with the first injection. Of the patients treated, approximately 50 per cent were relieved completely or almost completely and were able to return to their regular occupations; 30 per cent were definitely improved, but not entirely relieved of symptoms; and 20 per cent showed no improvement. In some of the latter group, especially if there had been direct trauma over the occipital neurovascular bundle, operative exploration was done.

The Endocrine Glands in Infantile Amaurotic Family Idiocy

Otto Marburg (*Journal of Nervous and Mental Diseases*, 100:450, Nov., 1944) reports a study of the endocrine glands in 3 cases of amaurotic family idiocy (2 boys and a girl, a year and a half to three years of age). Death in these cases was due to pneumonia. Each of these children had shown the classical symptoms of Tay-Sachs disease; the duration of the disease varied from nine months to two years and nine months. In these cases it was found that the adrenal medulla was completely or almost completely absent, "remains" of the medulla persisting in the case of shortest duration. The gonads were well developed with degeneration of the interstitial cells characteristic of the "puberty gland," and therefore indicating prematurity in these young children. There was relative hyperplasia of the thymus and increase of colloid in the thyroid; the other endocrine glands were normal, the apparatus of the islands of the pancreas being "rather well developed." On the basis of these findings, the author concludes that the asthenia in amaurotic family idiocy may be regarded as of the same type as that in myasthenia, Addison's and Graves' disease, amyotonia, congenital and familial periodic paresis. These asthenias may be termed "endocrine dysergias and anergias" presumably due to disturbances in the acetylcholine mechan-

ism. In amaurotic family idiocy, Addison's and Graves' disease, these disturbances are apparently due to the lack of adrenal medulla, and the hyperplasia of the thymus is "perhaps compensatory" for the lack of adrenal.

Familial Incidence of Tumors of the Brain

M. O. GROSSMAN and B. H. KESERT (*Archives of Neurology and Psychiatry*, 52:327, Oct. 1944) report the occurrence of 4 cases of tumor of the brain in one family. The father, a daughter, and 2 sons were affected. One daughter remains well, but seeks neurological examination from time to time. In 2 members of the family the lesion is known to be a cerebellar hemangioblastoma; in the 2 others the nature of the tumor is not known, but in one a cerebellar tumor that could not be removed was present. Examination of the retina in this case did not show the presence of a coexisting retinal angiomas. Three of the 4 members of the family have died of the cerebral tumor, but autopsy was not permitted. The other member of the family (a son, twenty-three years of age) is living and well after surgical removal of the tumor. Hemangioblastoma occurs almost exclusively in the cerebellum and is usually cystic; the familial incidence of this type of tumor has been noted by others. This tumor is characteristically, but not invariably, associated with angiomas of the retina. Lindau in 1926 reported that according to his findings, cerebellar hemangioblastoma was frequently associated not only with angioma of the retina, but also cystic anomalies elsewhere in the body. These might give no clinical symptoms but at autopsy small angiomatous nodules would be found in the spinal cord, kidney and adrenals, and also hypernephroma and cysts in angioma of the liver. As autopsy was not performed in any of the author's cases, the presence of angiomatous cysts in other parts of the body could not be demonstrated, but the author is of the opinion that the members of this family probably had Lindau's disease.

Post-Traumatic and Histamine Headache

A. P. FRIEDMAN and C. BRENNER (*Archives of Neurology and Psychiatry*, 52:126, Aug. 1944) note that headache is

a frequent and important symptom after head injury, and is not necessarily related to either the type or the severity of the injury. It often persists long after all other results of the injury have disappeared. In 22 patients with post-traumatic headache, a study of its relation to the headache produced by the injection of histamine has been made. A dose of 0.1 mg. histamine base (0.275 mg. of histamine diphosphate) was given intravenously. In 2 patients no headache developed following the injection. In 13 patients the headache following the histamine injection was identical with the post-traumatic headache in character and location, and in 3 others closely resembled the post-traumatic headache. A prompt decrease in systolic blood pressure was observed after the histamine injection, which was followed by a secondary rise; the headache developed as the blood pressure rose. The majority of patients with histamine headache obtained definite relief on sitting upright; in some cases this relief was "striking". The fact that post-traumatic headache can be reproduced by the injection of histamine indicates that there is "persisting and localized increase of vascular sensitivity" following head trauma. Some change takes place in or about the intracranial vessels which either facilitates the distention of the vessels with blood or renders such distention more painful. This hypothesis would explain only the mechanism of post-traumatic headaches, not their cause. Follow-up data have been obtained on only a few of the patients since histamine was given. Three of these patients report a definite diminution in the frequency and severity of their headaches since the injection; 2 other patients have noted no relief.

The Effects of Acetyl-Beta-Methylcholine in Human Subjects With Localized Lesions of the Central Nervous System

S. M. FISHER and G. W. STAVRAKY (*American Journal of Medical Sciences*, 208:371, Sept. 1944) found that the sensitivity of normal males to injections of mecholyl (acetyl-beta-methylcholine) varied considerably. An injection of 8 to 10 mg. of mecholyl caused flushing of the face and neck spreading rapidly to the chest and back and then to the extremities, sometimes to the fingers and toes. This

was accompanied by diaphoresis, and sometimes by rhinorrhea, salivation and lacrimation; as a rule this reaction terminated in five to ten minutes, but sometimes was more prolonged. When a similar dose of mecholyl was given to 12 patients with lesions of the frontal lobe with or without involvement of the motor cortex, there was an asymmetrical response. In 9 of these patients the erythema spread more rapidly and more extensively on the side of the lesion, the extremities of the contralateral side showing a pallor spread over almost the entire contralateral side of the body, flushing occurring only on the face and upper chest of that side. Sweating was more marked on the side of the lesion than on the contralateral side; and

the contralateral extremities were markedly colder than the ipsilateral ones. In the cases in which the lesions extended to the motor or premotor cortex, muscular tremors, slight involuntary movements, pronounced hyperreflexia and clonus of the wrist, ankle and patella occurred on the side opposite the lesion, in later stages of the reaction to mecholyl. The phenomenon of sensitization of denervated tissue to chemical stimulation is well known. In the cases reported the effects of mecholyl are interpreted as due to "a selective sensitization to chemical stimulating agents of partially isolated nerve cells situated in the chains of descending neurones of the brain and spinal cord."



The Control of Communicable Diseases

THE publication of "The Control of Communicable Diseases," an official report of the American Public Health Association, 6th edition, is announced by the Association. The book may be secured from the Book Service, American Public Health Association, 1790 Broadway, New York 19, N. Y. It contains 146 pages and sells for 35c per copy and in quantity as follows: 1 to 24 copies—35c each; 25 to 99 copies—30c each; 100 to 499 copies—28c each; 500 up—20c each.

Holland's Health Conditions Cause Anxiety

THE decline in Holland's health conditions during the German occupation has been aggravated by the low physical state of the thousands of men who so far have been repatriated from German labor camps. Two diseases have increased at an alarming rate; both tuberculosis and venereal diseases have been imported from Germany on a large scale and are causing Netherlands health authorities much concern.

Dr. Dublin's Assignment Completed

DR. LOUIS I. DUBLIN, second vice-president and statistician of the Metropolitan Life Insurance Company, has completed his assignment as full-time

assistant to Basil O'Connor, Chairman of the American Red Cross, and as chairman of the organization's Administrative Committee, and has resumed his duties with the insurance company. Dr. Dublin will continue to assist Mr. O'Connor in the long-term policies and plans of the Red Cross and will be active in relation to the operation of the New York City Chapters.

University of Chicago Committee on Publications in Biology and Medicine

R. WENDELL HARRISON, Dean of the Division of the Biological Sciences of the University of Chicago, has been appointed to the Committee on Publications in Biology and Medicine of the University of Chicago Press. Dean Harrison has been on the faculty of the University since 1937, previously having taught at Washington University (St. Louis) and Southern Methodist University. He is a member of the editorial board of the Journal of Infectious Diseases, and widens the scope of the Committee by bringing to it his specialized interests not only in the fields of bacteriology and immunology, but in oral bacteriology and dental caries. The Committee advises the University of Chicago Press of research suitable for publication, plans needed texts, and acts as a publishing outlet for valuable work now being done throughout the country in the biological and medical fields.

Medical BOOK NEWS



XAVIER BICHAT
1771-1802

Classical Quotations

● All animals are an assemblage of different organs, which, executing each a specific function, concur for the preservation of the whole. These in turn are made up of many textures of different kinds, which really compose the elements of these organs. Just as Chemistry has its simple bodies, uniting to form compounds, so Anatomy has its simple tissues [listed by Bichat as 21] which by their combinations make up organs.

XAVIER BICHAT
Anatomie generale. 1801.

Babcock's New Surgery

Principles and Practice of Surgery. By W. Wayne Babcock, M.D. With the Collaboration of 37 Members of the Faculty of Temple University. Philadelphia, Lea & Febiger, [c. 1944]. 1,331 pages, illustrated. 4to. Cloth, \$12.00.

THE latest revision of this well known surgery incorporates much detail as to modern surgical practice including advances in the surgery of war conditions. Many advances in treatment of surgical conditions are incorporated. One may refer to penicillin in the treatment of infections as also the sulfonamides. The use of plasma and blood transfusions, anticoagulants, vitamins and hormones are included. New, improved operations are presented for the treatment of diseases of the heart, lungs, pancreas and stomach. Much detail has been compressed into a relatively small volume. There are abundant illustrations, photographs, diagrams, charts which add greatly to the descriptive part. The book is intended to give the student and practitioner a working knowledge of both common and rare surgical conditions and is recommended for their use.

EMIL GOETSCH

Edited by
ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, N. Y.

Mental Hygiene for the Individual

Personal Mental Hygiene. By Dom Thomas Verner Moore, M.D. New York, Grune & Stratton, [c. 1944]. 331 pages, illustrated. 8vo. Cloth, \$4.00.

THE author's purpose in this book is to familiarize the individual reader with selected attitudes of mind, ideals and principles which he feels will be helpful in furthering emotional adjustments to life's problems and vicissitudes. Dr. Moore feels that the psychiatrist rarely is able to point the way to the higher things of life in view of the fact that he fails to emphasize the spiritual sphere which extends far beyond the limitation of all possible emotional adjustments. Attitudes of mind, ideals and principles are formulated with this object in view.

The contents touch upon concepts of mental hygiene and mental disorder, mental hygiene of emotional life, depression, anxiety, anger, hate and race prejudice, role of intellect and emotion in the problems of life, and mental hygiene of the home with special reference to the over-protected and rejected child. The ideal family life and mental hygiene in the school are given some attention.

However, throughout the book there is a conscious purpose of accentuating religious values, ideals and sublimation which goes against the grain of the non-sectarian psychiatrist who is resolved to stick to his last through the traditional scientific approach. Illustrations of clinical material as well as brief analyses of historical and literary personalities round out the volume.

FREDERICK L. PATRY

Clinical Cardiology

Clinical Heart Disease. By Samuel A. Levine, M.D. 3rd Edition, Revised. Philadelphia, W. B. Saunders Co., [c. 1945]. 8vo. 462 pages, illustrated. Cloth, \$6.00.

THE previous editions of Dr. Levine's book were reviewed in this department. It was pointed out that the graphic descriptions of the various types of heart disease, and what to do about them, made the book particularly valuable to the be-

ginner in cardiology, while the opinions of the author were those of an acknowledged leader in the field, and therefore of interest to any cardiologist. The new edition amplifies the discussion of some of the more recent developments such as the surgical treatment of patent ductus arteriosus, and penicillin in bacterial endocarditis, and introduces brief accounts of scleroderma, rupture of the valves, and Addison's disease.

The section on electrocardiography has been elaborated, particularly that part devoted to the precordial leads, and a brief consideration of phonocardiography has been added.

Levine discusses with interest the recent suggestions as to shortening the period of rest following myocardial infarction. He concedes that many of the milder cases might be gotten out of bed earlier with advantage, and that all of them should be encouraged to move their legs more, but still holds to the rule—"at rest for four to eight weeks."

TASKER HOWARD

How Medicine "Got this Way"

American Medical Practice. In the Perspectives of a Century. By Bernhard J. Stern, Ph.D. New York, The Commonwealth Fund, [c. 1945]. 156 pages. 8vo. Cloth, \$1.50.

THIS small volume is one of a series of studies sponsored by the Committee on Medicine and the Changing Order of the New York Academy of Medicine. It explains very clearly how the present medical situation came to be, in so far as social and economic changes determined it, and gives some indications as to future trends. It is bound to give one an indispensable insight—a good perspective—into many of the puzzles of the medical status quo. A liberal education of this sort is packed into the first eighteen pages alone.

ARTHUR C. JACOBSON

Pulmonary Diseases

Diseases of the Chest. By Robert Coope, M.D. Baltimore, The Williams & Wilkins Co., [c. 1944]. 324 pages, illustrated. 8vo. Cloth, \$7.50.

THIS is a book that should have special appeal for students and practitioners of medicine. Its style and method of approach to each of its many subjects departs considerably from that of the usual textbook. It is definitely more readable. However, it makes no pretense toward an elaborate exposition of the many phases characterizing changing pulmonary path-

ology, nor does it go into detail in the modern treatment of pulmonary diseases. Scarcely a word is said about the many more radical surgical procedures commonly employed today. The book does cover a wide range of pulmonary diseases both acute and chronic, including the pneumonias.

FOSTER MURRAY

New York Neurological Institute

The Story of a Hospital. The Neurological Institute of New York. 1909-1938. By Charles A. Elsberg, M.D. New York, Paul B. Hoeber, Inc., [c. 1944]. 174 pages, illustrated. 12mo. Cloth, \$3.50.

THIS book is an amiable account of the activities of a famous group of neurological pioneers, together with a factual description of the birth and growth of a hospital founded in 1909 for "the study and treatment of nervous diseases." The description of the work done at this Institute does not adequately portray the actual life as seen there by staff members.

LAURENT FEINIER

Crime Psychopathology

Case Studies in the Psychopathology of Crime. A Reference Source for Research in Criminal Material. Vol. II. By Ben Karpman, M.D. Washington, Medical Science Press, [c. 1944]. 4to. 738 pages. Cloth, \$16.00.

IN order to properly estimate the significance of this enormous study undertaken by the author, one must not only possess an intimate knowledge of psychiatry and psychoanalysis, but a profound familiarity with practical criminology and the allied social sciences as well. It is therefore not without a good deal of misgiving that a criticism is attempted.

Outstanding is the impression that the entire publication of this comprehensive study will make an important contribution to psychopathology. This Volume II is another in the series of intensive studies and is to be followed by others. Volume I was followed by an interpretative book called "The Individual Criminal." A similar interpretative publication of the material of Volume II is expected to follow soon. The studies in Volume II differ from Volume I in that the method used for the four types of criminality includes the psychoanalytic as well as the psychogenetic. The author states in his preface, that Volume I contains histories of individuals charged with predatory crimes, whereas Volume II deals directly with cases involving sexual crimes.

The case of Kenneth Elton is given in the original form as analyzed, session by

session, and can serve as a fine paradigm for studies by others who may wish to pursue research along similar lines. Included in the Elton study is the data of the effectiveness of psychotherapy and the author's conclusion with respect to it—"that in some instances at least, criminality is a particular form of psychic disease manifesting itself in aberrant social behavior and curable by psychic means." This is indeed an optimistic outlook for humanity and should serve to encourage all those interested in this subject to read and appreciate this prodigious work in the field of psychiatry.

The four cases here studied include Theft of U. S. Mail and Drug Addiction, Violation of the Mann Act, Rape, and Mail Train Robbery.

SIMON ROTHENBERG

A New Boyd's Pathology

The Pathology of Internal Diseases. By William Boyd, M.D., 4th Edition, Revised. Philadelphia, Lea & Febiger, [c. 1944]. 857 pages, illustrated. 8vo. Cloth, \$10.00.

THE 4th edition of Boyd's Pathology of Internal Diseases is similar in format and general scope to the previous editions. It is written in an interesting manner with an adequate discussion of the pathologic lesions underlying the disease processes and with good correlation with the symptoms and signs. The photographs and the photomicrographs are clear and well chosen to illustrate the lesions. The references at the end of the chapters are key articles to the subject matter under discussion.

In this edition the author has brought his subject matter up to date. To do this he has rewritten many sections and added new ones which are too many to enumerate. The concentration has been chiefly on cardiovascular renal disease and to a lesser extent on the lungs and endocrine glands.

The book is one that should be on the library shelves of both physicians and students.

DAVID M. GRAYZEL

New Edition of Lowsley and Kirwin's Urology

Clinical Urology. By Oswald Swinney Lowsley, M.D. and Thomas Joseph Kirwin, M.D. [In two volumes]. 2nd Edition. Baltimore, The Williams & Wilkins Co., [c. 1943]. 1,769 pages, illustrated. 8vo. Cloth, \$10.00 per set.

THE second edition of this two-volume work represents a valuable contribution to Urology. It is thoroughly revised with many additions made to the text in

bringing it strictly up to date. Vivid illustrations are numerous, including operative technique, skillfully done by Mr. William P. Didusch. Some three hundred additional illustrations were also prepared but could not be included because of war conditions.

A bibliography is appended at the end of each chapter. An enormous amount of work has undoubtedly been involved in the accomplishment of such a comprehensive text and is a glowing tribute to the authors. Although the work is intended primarily for medical student, practitioner and general surgeon, it should be included in the library of every urologist for ready reference.

AUGUSTUS HARRIS

Stokes' New Edition

Modern Clinical Syphilology. Diagnosis, Treatment, Case Study. By John H. Stokes, M.D., Herman Beerman, M.D., and Norman R. Ingraham, Jr., M.D. With the Collaboration of 8 Members of the Faculty of the University of Pennsylvania. 3rd Edition. Philadelphia, W. B. Saunders Co., [c. 1944]. 1332 pages, illustrated. 8vo. Cloth, \$10.00.

THIS is indeed a most comprehensive text on the present day knowledge of syphilis in all its manifestations. The authors need no introduction, and their experience is conceded to be great. One could scarcely begin to tell of the many fine characteristics of the book. It is almost enough to say that it has been largely rewritten and brought up to date, including even a chapter on chemotherapy and penicillin treatment, which is cautiously evaluated, but indicates that in this agent we may have the answer to a long sought therapeutic procedure without many of the difficulties and inadequacies of our heavy metal therapy.

Photographs are numerous, many of them being of other diseases, truly giving a clinic in differential diagnosis. Summaries, charts, case reports and tabulated lists abound, each one presenting a specific phase of the disease. These are so valuable that even a dozen could scarcely be picked as choice examples. In the chapter on "Clinical Approach to Syphilis" is a tabulation of cardinal suspicion arousers of syphilis giving symptoms and signs; or another, "Items easily overlooked or misinterpreted in the physical examination for syphilis, early and late." There are many more.

If the physician wants to know how to arrive at a diagnosis, determine the method of treatment, how to handle reac-

tions and complications, or the value of detoxicating agents—in fact, anything about syphilis, he will find it here.

E. ALMORE GAUVAIN

Mustard's Public Health

An Introduction to Public Health. By Harry S. Mustard, M.D. 2nd Edition. New York, The Macmillan Co., [c. 1944]. 283 pages. 8vo. Cloth, \$3.25.

THIS second edition has been modified to include subject matter appropriate for lay teaching groups in addition to its original presentation for professional students.

The author in his usual compact style provides a wealth of information on public health subjects in 250 pages. The references at the end of each chapter enable the student to amplify his knowledge on matters under discussion.

ALFRED E. SHIPLEY

Amino Acids

Outline of the Amino Acids and Proteins. Edited by Melville Sahyun. 13 Contributing Authors. New York, Reinhold Publishing Corporation, [c. 1944]. 251 pages, illustrated. 8vo. Cloth, \$4.00.

A NUMBER of prominent authorities have each contributed a chapter or two for this short book edited by Melville Sahyun. Its purpose is stated to be an "outline in a simple and readable manner" of "the chemistry and the biochemistry of amino acids and proteins." This purpose has been admirably achieved for such an intricate problem. Extensive bibliographies are printed at the end of each chapter. Amino acids and proteins will undoubtedly occupy a more and more prominent place in medicine. Therefore such a remarkably complete outline should serve a useful purpose at present.

VICTOR GROVER

Psychometrics

The Measurement of Adult Intelligence. By David Wechsler. 3rd Edition. Baltimore, The Williams & Wilkins Co., [c. 1944]. 258 pages, illustrated. 8vo. Cloth, \$3.50.

THE Wechsler-Bellevue Psychomatic test is now recognized as a valuable standard of measuring native intelligence. The 3rd edition of this book has been written with a view of embracing the book's usefulness to those engaged in the field of applied psychometrics. The author has taken into consideration the importance of applying his scale of measurement of native intelligence to members of the Armed Forces and he has, therefore, made appropriate additions. The book has a

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well merited reputation and is highly recommended to those who are interested in this field of science.

IRVING J. SANDS

Blood Grouping

Medico-Legal Blood Group Determination. Theory and Technique Practiced. By David Harley, M.D., New York, Grune & Stratton, [c. 1944] 8vo. 119 pages, illustrated. Cloth, \$3.50.

THIS handy brief volume consists of 113 pages of condensed subject matter with a fairly good reference list and a well prepared index of authors and subjects. It is well illustrated with clear, almost self-explanatory diagrams, graphs, plates, and tables. The text is about evenly divided between the theory, technique and practice of medico-legal blood group determinations in which the author describes modifications and refinements of his earlier techniques. The bulk of the author's practical material on criminal cases is taken from the files of Dr. G. Roche Lynch, Senior Home Office Analyst, Dept. of Chemical Pathology of St. Mary's Hospital, London. The cases of bastardy blood tests are taken from H. M. Stationery Office publications. Both offices supply most interesting case records which enrich the originality of the text. However the author does not depend entirely on these sources of information for his material and quotes freely from other texts. It is especially replete with citations from Alexander S. Wiener's classic, *Blood Groups and Blood Transfusion*, to which Dr. Harley's new book should prove to be a very worthy supplement.

Those interested in the science of blood transfusion, immunology, anthropology, genetics, forensic medicine and criminology should find this book a very helpful reference volume.

S. H. POLAYES

Textbook for Nurses

Textbook of Anatomy and Physiology for Nurses. By Carl C. Francis, M.D., C. Clinton Knowlton, Ph.D., and W. W. Tuttle, Ph.D. St. Louis, C. V. Mosby Company, [c. 1943]. 586 pages, illustrated with 39 color plates. 8vo. Cloth, \$3.50.

THIS book is written in a very simple style which should be readily understood by student nurses. The material is covered adequately.

There are a large number of clear illustrations and they are well labelled. The glossary is well compiled. It is a good textbook for beginners studying the science. For advanced study a student would need a more detailed textbook.

MARIE M. BEHLEN

BOOKS RECEIVED for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

Pye's Surgical Handicraft. A Manual of Surgical Manipulations, Minor Surgery, and Other Matters Connected with the Work of Surgical Dressers, House Surgeons, and Practitioners. Edited by Hamilton Bailey, F.R.C.S., Eng. 14th Edition, Revised. Baltimore, Williams & Wilkins Co., [c. 1944]. 8vo. 628 pages, illustrated. Cloth, \$6.00.

Duodenal and Jejunal Peptic Ulcer. Technic of Resection. By Rudolf Nissen, M.D. New York, Grune & Stratton, [c. 1945]. 8vo. 143 pages, illustrated. Cloth, \$4.75.

The Marihuana Problem in the City of New York. Sociological, Medical, Psychological and Pharmacological Studies. By the Mayor's Committee on Marihuana. Lancaster, The Jaques Cattell Press, [c. 1944]. 8vo. 220 pages, illustrated. Cloth, \$2.50.

Interns Handbook. A Guide, Especially in Emergencies, for the Intern and the Physician in General Practice. Under the direction of M. S. Dooley, M.D., and Maynard E. Holmes, M.D. 3rd Edition. Philadelphia, J. B. Lippincott Co., [c. 1944]. 16mo. 579 pages, illustrated. Cloth, \$3.00.

Endocrinology. A Brief Review for Physicians. Prepared for the Illinois Department of Public Health with the cooperation of the Illinois State Medical Society, by James H. Hutton, M.D. [Forms: Circular No. 177.] (Springfield, Illinois, Illinois Department of Public Health.) 16mo. 169 pages.

Approved Laboratory Technic. Clinical Pathological, Bacteriological, Mycological, Virological, Parasitological, Serological, Biochemical and Histological. By John A. Kolmer, M.D., and Fred Boerner, V.M.D. 4th Edition. New York, D. Appleton-Century Co., [c. 1945]. 8vo. 1,017 pages, illustrated. Cloth, \$8.00.

Lectures on Diseases of Children. By Sir Robert Hutchison, Bart., M.D., and Alan Moncrieff, M.D. 9th Edition. Baltimore, Williams & Wilkins Co., [c. 1944]. 8vo. 478 pages, illustrated. Cloth, \$6.75.

Bacteriology and Allied Subjects. By Louis Gershenfeld, D.Sc. Easton, Pa., Mack Publishing Co., [c. 1945]. 4to. 561 pages, illustrated. Cloth, \$6.00.

Ourselves Unborn. An Embryologist's Essay on Man. By George W. Corner. New Haven, Yale University Press, [c. 1944]. 8vo. 188 pages, illustrated. Cloth, \$3.00.

Freud. Master and Friend. By Hanns Sachs. Cambridge, Harvard University Press, [c. 1944]. 8vo. 195 pages, illustrated. Cloth, \$2.50.

Injury and Death Under Workmen's Compensation Laws. By Samuel B. Horovitz, L.L.B. Boston, Wright & Potter Printing Co., [c. 1944]. 8vo. 486 pages. Cloth, \$6.00.

Appreciation . . .

The Physicians' Home received a colorful and heartwarming letter from the wife of a physician who recently lost his vision. Her husband, a beneficiary of the Physicians' Home, receives a check each month for maintenance in his own community, among his friends and former patients. Help us continue this friendly and constructive service to our colleagues. Please make your check payable to

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